RELATIONSHIPS BETWEEN DIFFERENT STAFFING MODELS, CONTEXT VARIABLES, AND SOCIAL CLIMATE IN SPECIAL CLASSES FOR CHILDREN WITH PSYCHOSOCIAL DISORDERS

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ABSTRACT OF THESIS

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Title of Thesis RELATIONSHIPS BETWEEN DIFFERENT STAFFING MODELS, CONTEXT VARIABLES, AND SOCIAL CLIMATE IN SPECIAL CLASSES FOR CHILDREN WITH PSYCHOSOCIAL DISORDERS

In the mid-1970's different staffing models began to be employed extensively in special education classes, particularly for children with psychosocial disorders. These models include teacher with an aide, teacher with child care worker, and two teachers together. To explore the effects of introducing staffing models into classrooms, staff and student perceptions of social climate were surveyed. Four aspects of staffing models were formulated as the basis on which climate variation with staffing model was expected: number of staff per classroom, different roles of staff positions, different role approaches, and relative status of different types of staff. An extensive survey of one hundred and twenty-five classes located in Ontario, Canada, indicated only very limited relationships between staffing model and responses to the Classroom Environment Scale. Several context variables related to student, staff and organizational characteristics of classes also were compared with the staffing model/climate relationship. Only student age was found to be related to classroom climate to any substantial extent. Qualitative data reported by classroom staff, primarily on approaches to organization of the class and on quality of working relationships, also were examined and found not to be related to a significant degree to classroom climate. The results of the survey are discussed in terms of the possibilities and limitations of staffing model and similar changes in the special education classroom context.

Use this side only

DEDICATION

This dissertation is dedicated to four people who made important contributions to its preparation but have not lived to see its completion: Chick Hendry, Stan Lerner, Brian Millan, and John Spencer.

"Non omnes morientur" (after Horace).

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As indicated in Chapter 7, the school boards and treatment centres who participated in the survey are inundated with research requests. I am grateful that yet another study was accepted. Indeed,

the willing participation of so many staff and students impressed the interviewers and made their task much easier. My thanks go to the whole survey group--students, classroom staff, interviewers and the other board and centre staff involved.

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CONTENTS

PART I

OVERVIEW AND BACKGROUND

CHAPTER 1

INTRODUCTION

From their inception 60-70 years ago, special education classes usually have consisted of a teacher and a small group of students. More recently, however, different staffing models have been adopted which are related to innovations in education (and human services more generally) such as team teaching, use of paraprofessionals and other forms of differentiated staffing. The main impetus for these innovations has been improved utilization of staff and better quality education (Coleman and Wallin, 1971). For example, special class teachers can be relieved of certain "non-teaching" duties by teaching aides (or assistants) and thereby enabled to enrich their teaching activities. Another example is the use of trained child care workers to manage students with emotional or behavioural problems. Less widespread are team teaching combinations to provide instruction for more than one class by two or more teachers.

Innovations in staffing models can have substantial cost implications when employed, as they are, in hundreds of classes. Are the effects also substantial? What kind of effects are they? For example, do classes with treatment-oriented staff (i.e. child care workers) provide a more therapeutic experience for children? The main purpose of this research study is to explore what kinds and what extent of impact different staffing models have in special classes. Since

all the developments in staffing models noted above are employed in Ontario classes for children with emotional or behavioural problems, that is the population sampled for the study.

1. PSYCHOSOCIAL DISORDERS

Different staffing models have been most evident in classes for children with emotional or behavioural problems. It is not surprising that staffing changes have occurred to such an extent in classes for children with these problems, compared with other types of special classes. Across the full range of classes for behavioural, communication, intellectual and physical "exceptionalities" (a euphemism for handicaps or special needs, being used increasingly in North America), there are special instructional requirements of various kinds. With children presenting behavioural problems, however, there is greater likelihood of an additional element of disruption of the learning process. Children with behavioural problems often are called "disturbed", but also "disturbing" because of the effect they can have on those around them. Accordingly, there is more insistent stimulus to organize for more effective handling of these classes.

As discussed further in Chapter 2, emotional and behavioural problems of children are many and varied, overlapping with other problem identifications such as retardation or mental handicap, delinquency, and learning disabilities. The included behaviours or conditions range from mild disruptive or unruly behaviour through aggressive. antisocial conduct, hyperactivity, anxiety and neuroses,

bedwetting, elective mutism, to severe conditions of autism, bizarre behaviour, grossly impaired language development, anorexia nervosa, pica, and schizophrenia.

Many terms are employed to refer to the overall range of emotional and behavioural disorders in children, emotional disturbance and maladjustment being the most common in North America and the United Kingdom, respectively. Other terms include: children in conflict, emotional distress, behaviour disorders, and psychopathological disorders, all reflecting different perspectives on the phenomenon being labelled. (See the discussion in Chapter 2.) The term used in the title and throughout this study -- "psychosocial disorders" -- was recommended as most appropriate by the comprehensive U.S. Project on Classification of Exceptional Children (Hobbs, 1975, [b]).

2. SERVICE LINKAGE

The two service sectors for children with psychosocial disorders can be distinguished as treatment and education, although there is overlap as well with the child welfare, juvenile corrections sectors, and also the broad sector of services for children with mental and physical handicaps. In different jurisdictions the components and organization of the two sectors, education and treatment, differ but the existence of two separate sectors is common. The result is common issues of linkage between sectors, even though the particular circumstances of linkage vary.

In Ontario, the circumstances of linkage between

education and treatment in the early 1970's were a second factor (in addition to the factor of disruptiveness discussed above) contributing to the development of different staffing models in classes for children with psychosocial disorders. This development resulted mainly from a Ministry of Education policy adopted in 1974 to assume funding responsibility for teachers in treatment centre classes. Operation of the classes is a shared responsibility of school boards and treatment centres under formal agreements. Most centres have assigned child care workers from their staff to work in the classes on a regular basis. (The agreement programme is discussed fully in Chapter 3.)

3. THEORETICAL FRAMEWORK

The essential purpose of the study is to explore the impact of different staffing models in special classes for children with psychosocial disorders. This will be done by relating staffing models to classroom social climate. The social climate concept represents the prevailing features characteristic of a social situation in an analogous way to climate in terms of weather. As with the weather analogy, social climate can be conceptualized in various ways emphasizing different referents, including the people, activities and circumstances of a situation.

The current emphasis on environmental orientation in social services and social science has led to considerable application of the social climate concept in areas related to this study: organizational studies (Jones and James, 1979),

education (Walberg, 1979), and psychotherapy (Moos, 1974). Its particular relevance here is the importance of social process in classes for children with psychosocial disorders. Social functioning is likely to be an area of difficulty for these children and an obstacle to learning; it also is an aim of education.

In Chapter 5, development of the social climate concept is elaborated upon and means of measurement in classrooms are reviewed. There is a basic choice between objective/observational and subjective sources of climate data. That is, participants can report their perceptions (subjective) or alternatively, information can be obtained by observation or from records (objective). The pros and cons of the two approaches are discussed in Chapter 5, along with the choice of respondent survey approach for this study on the basis that it offers an economical method of collecting relatively rich data.

Research work on social climate has yielded some models of relationship between climate variables and other variables expected or found to be related (Getzels and Thelen (1960), Litwin and Stringer (1968), Payne and Pugh (1976)). All are relatively general in their scope of variables and delineation of mechanisms of relationship; for example, the Payne and Pugh model reproduced as Figure 1.1. The model recognizes the broad environment in which an organization is situated. Within the wider economic and political environment, an organization's structure is shaped by contextual factors such as goals and technology. In turn, different structures produce different climates.

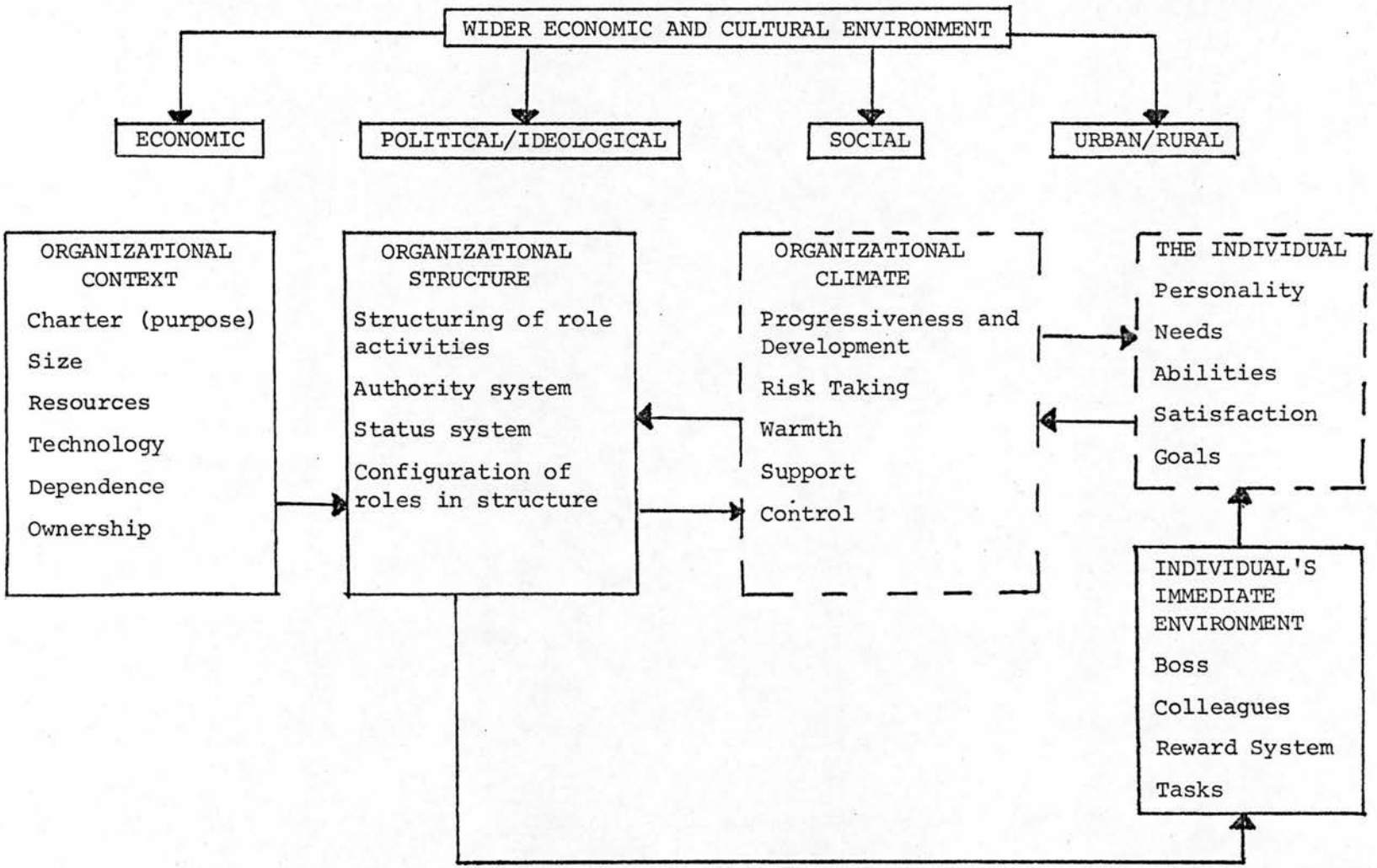


Figure 1.1 General model of relationship between social climate and other variables

Figure 1.1 places more emphasis on influences that might shape climate than on the possible results from the climate, such as altered behaviour by participants. Generally, however, social climate is not regarded as an end in itself, but an intermediate element of a process. To use Likert's terminology (1967), climate is an "intervening" variable situated between "causal" elements which are more independent sources of influence on an organizational situation, and "end-result" variables which are more dependent measures of outcome. This intervening variable status is generally accorded to climate, although studies often focus to one side (causal -- intervening) or the other (intervening -- end-result) in studying relationships between climate and other variables.

In this study of special classrooms, the "different structures" of Figure 1.1 are different staffing models. The traditional classroom model of a single teacher can be taken as the point of comparison, with three other models identifiable; teacher with a teaching aide, teacher with a child care worker, and two teachers together. Effects of the different models on social climate are expected to result from four interrelated aspects of the staffing models.

1. number of staff
2. different roles
3. different role approaches
4. relative status of staff groups

These four aspects arise from the role concept: that there are different expectations for behaviour placed on people occupying different positions in a social situation. In this

framework the use of staffing models that add child care workers or aides to classes will introduce different roles and role approaches (aspects 2 and 3). At the same time the issue of relative status of the positions and accompanying priority of roles also arises (aspect 4). The aspect of number of staff in the model also is interpreted in the role framework as affecting the opportunities for flexibility in utilization of roles. In Chapter 6 each of the four aspects of staffing models is discussed further and expected relationships to classroom climate are formulated.

4. SURVEY METHOD/ANALYSIS

The role-climate conceptual framework developed in Chapters 4, 5 and 6 is applied to an extensive survey of students and staff in special classes with different staffing models. Part III contains the survey plan and results. The survey procedures and instruments are described in Chapter 7 for the exceptionally large size of survey (125 classes, 250 staff, 800 students) which was conducted. In Chapter 8, the psychometric properties of the climate perception questionnaire (Classroom Environment Scale) and student behaviour checklist (School Ontario Children's Checklist) are analysed. The main body of the results relating staffing models, classroom climate, and a number of context variables are examined in Chapter 9. Finally, Chapter 10 reviews the findings emerging from the survey study and considers their implications.

CHAPTER 2

PSYCHOSOCIAL DISORDERS

As indicated in chapter 1, the classes in which staffing models are being studied will be described as for children with psychosocial disorders, following the recommendation of the U.S. Project on Classification of Exceptional Children. Since some understanding of these disorders is essential background to the intent and design of the different staffing models under investigation, this chapter provides a general overview.* Of necessity, it can be only a brief outline, but a number of extensive reviews also are available with either a treatment orientation (e.g. Quay and Werry (1979); Wolman (1972); Steinhauer and Rae-Grant (1977); Schwartz and Johnson (1981)) or educational orientation (e.g. Laslett (1977); Dupont (1975); Wilson and Evans (1980)). In this chapter, psychosocial disorders will be discussed under four topics: definitions, classification, prevalence, and theoretical perspectives.

1. LABELS, DESCRIPTIONS, DEFINITIONS

Definitions usually are difficult in the social sciences. In the case of psychosocial disorders of children, a number of factors contributing to the difficulty of definition

*Readers familiar with the subject of psychosocial disorders in children may wish to proceed directly to Chapter 3.

can be identified. The brief discussion in Chapter 1 suggested that the term refers to a very diverse range of phenomena, also that there is considerable ambiguity about the boundaries of the range. More basic difficulties arise from the limited means of observing disorder itself and having to infer from behavioural evidence. Thus, most delineations of the field are descriptions based on signs of distress or dysfunction that indicate a disorder.

A number of terms and descriptive categorizations have been designed to serve administrative purposes (as funding criteria or service mandates), to support dominance by a professional group, or to suit conceptual preferences. An additional consideration appears to have been some desire to devise euphemisms that have less negative connotations than terms such as mental illness. On the other hand, it has been argued (e.g. Bowman, 1981) that social class biases also have influenced descriptions of psychosocial disorders of children.

The most widely used terms for psychosocial disorders of children are maladjustment and emotional disturbance. Maladjustment is the term more commonly used in the U.K. It first appeared in the 1920's in relation to child guidance clinics, but did not have formal status until it was proposed as a category of special education provision in a government paper Education After the War (U.K., Board of Education 1941). The 1944 Education Act established the category as one of eleven for which educational authorities would be obliged to make specific provision. The official definition of maladjusted pupils has remained virtually unchanged since:

> "pupils who show evidence of emotional instability or psychological disturbance and require special educational treatment in order to effect their personal, social or educational readjustment"
>
> (Laslett, 1977)

Though originally (and still) an education-related term, maladjustment quickly was applied more generally to refer to children with emotional or behavioural problems. The orientation is intrapsychic (references to emotions and psychology but not to behaviour) which reflects the prevailing psychodynamic view of the period.

In North America, emotional disturbance has been the predominant term, rather than maladjustment, especially in treatment services. There is no standard definition, although there is substantial similarity among the several usually cited. One of the most specific, proposed by Bower and Lambert (1971), consists of a set of five behaviour patterns:

1. an inability to learn which cannot be adequately explained by intellectual, sensory, neurophysiological, or general health factors
2. an inability to build or maintain satisfactory interpersonal relationships with peers and teachers
3. inappropriate or immature types of behaviour or feelings under normal conditions
4. a general pervasive mood of unhappiness or depression
5. a tendency to develop physical symptoms, such as speech problems, pains, or fears, associated with

personal or school problems

More recently, behavioural handicap, disability or exceptionality has been replacing the emotional disturbance term. However, the concept has changed little. For example, when the 1975 U.S. mandatory special education bill (P.L. 94-142) was being implemented, the official definition of "behaviour disabilities" was based on Bower's behaviour patterns for "emotional disturbance". A review of definitions at the U.S. State level suggests an equal but rather confused status for the emotional and behavioural terms:

> Roughly one-third of the definitions used the word "emotion" and/or related allusions to intrapsychic disorder without mentioning "behaviour" problems; another one-third used the word "behaviour" and/or referred to one or more overt behaviour problems with no mention of emotional difficulties; the remaining third of the definitions made mention of both types of problems." (Cullinan and Epstein, (1972).

In Ontario, emotional disturbance continues to be the dominant term in common use and is part of the specified mandate for children's mental health services of serving children "suffering from mental, emotional or psychiatric disorders" (Ontario, Revised Statutes 1980 [a]). However, the Ontario Ministry of Education refers to a "behavioural exceptionality" grouping that includes both emotional disturbance and social maladjustment and is defined as:

> "A learning disorder characterized by specific behaviour problems over such period of time, and to such a marked

degree, and of such a nature, as to adversely affect educational performance; and that may be accompanied by one or more of:

-- the inability to build or to maintain interpersonal relationships;

-- excessive fears or anxieties;

-- a tendency to compulsive reaction;

-- the inability to learn which cannot be traced to intellectual, sensory, or other health factors, or any combination thereof." (Ontario Ministry of Education, 1981)

All of the definitions cited provide only limited delineation of a broad, heterogeneous range of behavioural phenomena. There also is a degree of tautology in the references to need for services contained in the definitions. A further criticism, made particularly from a phenomenological or ecological perspective (discussed in Section 4 below), is the lack of reference to context or environment in which disturbed behaviour is seen. Hargreaves, for example, points out:

"Terms such as "maladjustment" are defective in that they fail to specify to what or whom the person is maladjusted: the situation in which the deviance arises, and the evidence which accomplishes the ascription of deviance are ignored. The labelling theorist would be suspicious of the diffuse nature of concepts such as "maladjustment" because they imply a generalized condition that is abstracted from its social context." (Hargreaves, 1978)

Rhodes makes a similar point from the ecological perspective:

> "Disturbance is constituted from a reverberating circuit between the disturbing individual and various significant individuals within the environmental settings such as home, classroom, etc. The disturbance resides in the agitated exchange which takes place between individual and environment. Each contributes to the process." (Rhodes, 1970)

2. CLASSIFICATION OF PSYCHOSOCIAL DISORDERS IN CHILDREN

Considering the diversity of conditions encompassed by the term "psychosocial disorders", it is not surprising that substantial efforts have gone into classifying the various forms into meaningful categories for diagnostic, etiological, or simply descriptive purposes. Generally, these efforts can be grouped into two approaches, one based on clinical derivation, and the second empirically based on behavioural data.

Empirically-based classifications use questionnaires to collect data which are then analysed to identify statistically homogeneous subgroups. Of the great many checklists or rating scales currently available, only a few have gained widespread acceptance and application. These include:

Behaviour Problem Checklist (Quay)

Bristol Social Adjustment Guide (Stott)

Connors' Teacher Rating Scale

Children's Behaviour Questionnaire (Rutter)

Child Behaviour Checklist (Achenbach)

An integrated review of behaviour checklists (plus systematic analysis of case histories) was reported by Achenbach and Edelbrock recently (1978). (For an earlier review of checklists for classrooms see Spivack and Swift (1973)). The main groups of behaviour consistently emerging from the studies were divided by Achenbach and Edelbrock into broad band and narrow band syndromes. That is, some studies yielded small numbers (3 or fewer) of syndromes encompassing broader ranges of behaviours, while other studies yielded large numbers (5 or more) of syndromes. The narrow band groups were more numerous and were either particular variations of broad band groups (e.g., hyperactive, schizoid) or other categories altogether (e.g., sexual problems).

Achenbach and Edelbrock's broad band groups included undercontrolled, overcontrolled, pathological detachment, and learning problems. The most frequent and clear-cut category was the undercontrolled. It includes aggressive behaviour, both verbal and physical; acting out behaviour; poor social relationships with adults and peers. There is some debate about whether hyperactive behaviour is included in the undercontrolled group. Quay includes it on the grounds that it correlates highly with aggressive, acting out behaviour.

The second broad category is overcontrolled behaviour. It includes inhibited, shy-anxious behaviour, and, as expressed by Quay (Quay and Werry, 1979), the meaning conveyed is that of "withdrawal rather than attack, of isolation rather than active engagement, and of subjectively experienced anxiety and distress

rather than the apparent freedom from anxiety characterizing conduct disorder (i.e., undercontrolled behaviour)". Quay notes further that "fear, anxiety, tension, and withdrawal when occurring in certain environmental circumstances can result in overt behavioural acts defined as antisocial". Not surprisingly, school is the focus of such child anxiety. It is the main arena of daily activity for children, where they encounter expectations for performance and relating beyond the usually supportive protection of their homes. Frequently, behaviour problems with school take the form of refusing to attend but there are many possible forms.

Achenbach and Edelbrock describe the third broad category as pathological detachment, but they caution that it lacks the homogeneity of the undercontrolled and overcontrolled behaviours. This more extreme subgroup includes items from Achenbach's earlier study (1967) labeled as severe and diffuse psychopathology; bizarre behaviour, fantastic or confused thinking. The less extreme is illustrated by Quay's inadequacy/immaturity grouping, although it appears that the notion of pathological detachment is being stretched to accommodate Quay's grouping. Given the generally acknowledged distinctness of psychosis (Quay and Werry, 1979) it may be preferable to consider the possibility of a fourth broad category related to social maturity (Sines, 1969) which would better accommodate Quay's immaturity factor and not dilute the more psychotic detachment category.

In terms of broad categories, therefore, behaviours suggesting psychosocial disorder can be grouped into the

undercontrolled, overcontrolled, and detached categories with perhaps a fourth called immaturity. A behaviour checklist incorporating this schema will be introduced in Chapter 7 for use in the research study.

The main advantages of behaviour checklists are the ease and reliability with which observable constellations of behaviour can be identified. While checklists vary considerably in the extent of these advantages, they generally are easy to use and yield quite reliable results. On the other hand, rating scales are just classification devices. They do not provide a basis for diagnosing the service requirements of individual children. Secondly, like computer programs, checklists can only provide results within the range of items included. For example, if learning problems are not included, none can be identified by a checklist. A related issue is the characteristics of the child samples on which development of a rating scale has been based. If only regular school class samples are used, for example, it is unlikely that a group of bizarre behaviour items will be developed since there will be very few, if any, such behaviours displayed by the students. Behaviour patterns also vary significantly by location (e.g., home compared to school).

Psychiatric Classifications

There are two classifications in widespread use for diagnosis/categorization of psychosocial disorders in children:

-- Classification of Diseases - 9th Revision, 1975

(ICD-9)

— Diagnostic and Statistical Manual of American Psychiatric Association - 3rd Edition, 1980 (DSM-III).

ICD-9 provides the current framework for international statistics of mortality and morbidity. It consists of 999 categories grouped into 17 sections, one of which is for mental disorders (Section V). There are 30 categories in Section V intended to cover mental disorders in children as well as adults:

— Organic psychotic conditions (5 categories)

— Other psychoses (5 categories including 299--Psychoses with origin specific to childhood)

— Neurotic disorders, personality disorders and other nonpsychotic mental disorders (17 categories including 313--Disturbance of emotions specific to childhood and adolescence; and 314--Hyperkinetic syndrome of childhood)

— Mental retardation (3 categories)

(World Health Organization, 1977)

Most psychosocial disorders in children would come under various categories of the Neurotic Disorders group.

This categorization process entails more detailed differentiation than is the case for most of the empirically-based classifications discussed in the preceding section because clinical interpretations are being applied to the observations of disorder. The point is further illustrated by the Clinical Modification of ICD-9 (ICD-9-CM) developed in the United States. It retains compatibility with ICD-9 but adds a number of subcategories within the basic set of 30

categories. As has been the case with narrow band vs. broad band categories discussed in the preceding section, more detailed classifications (ICD-9-CM vs. ICD-9) yield lower inter-rater reliability of diagnosis (Yule, 1981).

Another salient aspect of ICD-9 relates to the extensive development process of international conferences on which it was based. The group working on disorders in children developed a multi-axial approach (Rutter, Shaffer and Shepherd, 1975) that might better recognize interrelated significance of companion conditions (e.g. mental retardation, physical disability). Although it was concluded that implementation in ICD-9 was premature, the multiaxial concept has been very influential in orienting classifications towards multidimensional structure (as is evident in the following commentary on DSM-III).

DSM-III is the abbreviated designation for the third edition of the Diagnostic and Statistical Manual of Mental Disorders published by the American Psychiatric Association (1980). It includes a major section for "Disorders Usually First Evident in Infancy, Childhood, or Adolescence", and most of the conditions (apart from mental retardation) could be termed psychosocial disorders. The definition of mental disorder for DSM-III bears some similarity to the various definitions examined at the beginning of this chapter:

> Mental disorder: "A clinically significant behavioural or psychological syndrome or pattern that occurs in an individual and that is typically associated with either a painful symptom (distress) or impairment in one or more

important areas of functioning (disability)".

(AmericanPsychiatric Association, 1980)

The main features of DSM-III are firstly, the diagnostic criteria which have been formulated for determining the applicability of each category, and secondly, the multiaxial structure (Spitzer, et al, 1980). Operational criteria were developed to counteract the fundamental difficulty noted earlier in the discussion of classifications that they are not applied uniformly by practitioners. To varying degrees, the same conditions are diagnosed differently by different clinicians, and at the same time different conditions are given the same diagnosis. DSM-III introduces specific criteria as a guide to clinicians in making diagnoses. For example:

"313.23 CONDUCT DISORDER, SOCIALIZED, AGGRESSIVE

Diagnostic criteria

A. A repetitive and persistent pattern of aggressive conduct in which the basic rights of others are violated, as manifested by either of the following:

   1. physical violence against persons or property (not to defend someone else or oneself), e.g., vandalism, rape, breaking and entering, fire-setting, mugging, assault

   2. theft outside the home involving confrontation with a victim (e.g. extortion, purse-snatching, armed robbery)

B. Evidence of social attachment to others as indicated by at least two of the following behaviour patterns:

   1. has one or more peer-group friendships that have lasted over six months

   2. extends himself or herself for others even when no immediate advantage is likely

   3. apparently feels guilt or remorse when such a reaction is appropriate (not just when caught or in difficulty)

4. avoids blaming or informing on companions

5. shows concern for the welfare of friends or companions

C. Duration of pattern of aggressive conduct of at least six months.

D. If 18 or older, does not meet the criteria for Antisocial Personality Disorder." (American, 1980)

The multiaxial structure of DSM-III employs the geometric notion of different dimensions to connect related information to diagnoses of mental disorders so that the composite picture may enhance interpretation and treatment planning. There are five axes, the first three required for every diagnosis:

Axis I Clinical Syndromes

Axis II Personality Disorder

Specific Developmental Disorders

Axis III Physical Disorders and Conditions

Axis IV and V are optional, designed for special clinical and research settings

Axis IV Severity of Psychosocial Stressors

Axis V Highest Level of Adaptive Functioning Past year

(American Psychiatric Association, 1980)

3. PREVALENCE

Considering the general nature of the definitions for psychosocial disorders in children and the related terms discussed above, it is not surprising that prevalence of the phenomenon is difficult to establish.* Attempts to arrive at estimates demonstrate the methodological as well as conceptual

obstacles to be overcome. The estimates which have been reported range from as low as 2% of children to nearly 50%, depending on the population studied and the criteria of disturbance (Commission, 1970). Most estimates of severe disturbance, however, are at or below 10%.

Two types of data have been used to estimate prevalence of psychosocial disorders--administrative (service) statistics, and special or general population surveys. Service statistics are available from schools and mental health agencies. Both record dramatic increases in service over the past 30 years, but no one suggests that the prevalence of disorders has increased to that degree. Rather, the increases can be attributed primarily to general factors identifiable in a period which saw expansion of the full range of human services:

- post WWII prosperity
- unprecedented baby boom
- lobbies of mental health and education professionals
- wave of confidence in rehabilitative capabilities

From a phenomenological or critical perspective, additional factors would be added such as an exclusionary bias against lower social class children (Squibb, 1981) or administrative tailoring of need identification to supply of service (Woolfe, 1981). Clearly, there are severe limitations to the value of administrative statistics in estimating

*Prevalence rates indicate the total number of persons with a disorder at the time of study. Incidence rates (measuring number of disorders first occurring during a defined period of time) are less common in psychiatric epidemiology, perhaps because prevalence rates are more indicative of service needs for chronic conditions.

prevalence.

Regarding population surveys, of particular note are the estimates resulting from Isle of Wight, England, prevalence surveys conducted by Michael Rutter and others in the mid-1960's and early 1970's (Rutter, Tizard and Whitmore (1970); Graham and Rutter (1973); Rutter, et al (1975)). In the first study of all 10 and 11 year olds in 1965 on the Island (over 2000), 5.7% were identified as showing significant psychological disturbance (6.8% estimate was adopted to allow for children missed in the screening process). Emotional disorders were slightly more common in girls, and conduct disorders were very much more common in boys.

The second survey, in 1970, compared rates for an inner London borough with those in Isle of Wight; they were more than twice as high (roughly 20% compared to less than 10%). This higher rate also was identified in a study of similarly aged children in the Newcastle, England area (Miller, et al, 1974). However, Graham (1979) notes a Danish study on 5-7 year olds in which an urban group had a lower prevalance rate of psychiatric disorders than a rural island group (8% vs. 11%). Nevertheless, a Norwegian study of 15 year olds found the same urban/rural difference as did Rutter and Miller.

A recent study conducted in Ontario, Canada is similar in scope and rigour to the Isle of Wight survey. The Ontario Child Health Study (OCHS) had as its primary objective:

> "to obtain unbiased, precise estimates of the prevalence of four psychiatric disorders (i.e., conduct disorder, neurosis, hyperactivity and somatization) among Ontario

children 4 to 16 years old." (Offord, et al, 1984)

Apart from 3.3% of the target population living in institutions or on Indian Reserves, a stratified random sample of 520 households from each of four regions of the province was surveyed. The sample size was selected to ensure prevalence estimates for each region were within 4% of the population values. Information was obtained on risk factors (e.g., early child history, family functioning, family sociodemographics), health status (using checklists based on the Child Behaviour Checklist developed by Achenbach and Edelbrock [1981]), and consequences (e.g., use of medical and social services, school failure and delinquency).

The preliminary results from OCHS for conduct disorder are similar to those reported in the Isle of Wight study. The rate for boys 6-11 is 5.8% and for girls less than 1%, compared to 6.0% and 1.6%, respectively in Rutter's findings (Rutter, et al, 1970). "Overall, the findings on urban/rural and social class differences in conduct disorder in the present study are most marked among boys 6-11 where they are stronger than those reported for both sexes equally in the British studies (Offord, et al, 1984).

Judging from these few studies, an estimate of 5% emotional disturbance among children would be a conservative estimate. In Ontario that would mean at least 100,000 children (the corresponding figure for Scotland would be approximately 70,000). Given the magnitude of these estimates, it must be noted that the figures only indicate the presence of problems or

disorders. Not indicated are types or extent of services required to assist those children and their parents.

4. THEORETICAL PERSPECTIVES

Theoretical perspectives on psychosocial disorders of children can be grouped into at least six distinct types. Psychoanalysis was the first and until recently the dominant perspective. Behavioural approaches are now coming to the fore in North America and gaining substantial acceptance in Europe, as well. The biophysical (including neurological) perspective also is long established, and experiencing renewed interest. More recent approaches are discussed as the cognitive, interactionist, and ecological clusters. For each type of perspective, implications for service to children with psychosocial disorders will be the main focus.

a) Psychoanalytic

In the general psychoanalytic perspective, psychosocial disorders are interpreted as resulting from intrapsychic conflicts involving primarily unconscious drives. Accompanying the emphasis on unconscious conflicts in the psychodynamic perspective is a genetic or developmental view of disorders. That is, the origin of current manifestations of disorders is unresolved conflict of earlier periods of development in childhood. Freud, for example, traced pathology back to preschool psychosexual stages of development: oral, anal and phallic. With this emphasis on the unconscious and unraveling the past, psychoanalytic treatment tends toward elaborateness and exclusivity. Interpretation of peoples' unconscious requires skill, training and confidentiality; hence, doctors

were regarded as most appropriate. Extensive process also is needed to explore and work through the resolution of the intrapsychic conflicts causing psychosocial disorders. Child patients present additional complications of lesser ego development and limited capacity to discuss thoughts and feelings. Play therapy was devised to meet these problems. The complexity and intensiveness of the psychoanalytic perspective limit the direct application possible in classrooms, and schooling could not be seen as having much role in the treatment process.

As a footnote to the psychodynamic section might be added another alternative term to psychosocial disorders: psychopathology. It reflects the medical influence which accompanied the psychodynamic approach and the predominance of psychiatrists. Again, there appears to be a rough equivalence of meaning in use of the term psychopathology, compared with psychosocial disorders, emotional disturbance and maladjustment.

b) Behavioural Approach

Those who see a dialectical evolution of ideas could have expected the behavioural antithesis which followed the psychodynamic thesis. Laslett (1977) summarizes the distinguishing approach to behavioural therapy:

> "...behaviour therapists do not inquire "why is this child like this and what are the causes of his condition?" but they ask "What exactly is this child doing, in what circumstances, and what are the reactions to his behaviour which make its continuance probable?" Behaviour therapy is concerned with what can be observed in a contemporary

situation and altered by reference to contemporary events."

Referring to alteration of behaviour, or behaviour modification, still evokes for many people the recollection of Pavlov's dogs and the conditioned reflex concept of classical conditioning. However, it is the subsequent theory of operant conditioning which is the primary basis for contemporary behaviour therapy, or social learning as it is now frequently called. Operant conditioning is a means of modifying behaviours which B. F. Skinner called "operants"; that is, "spontaneously occurring behaviours for which there is not obvious stimulus, and which are under the control of the organism" (Rhodes and Paul, 1978).

> "In order to bring operant behaviour under environmental control, all that one needs to do is to provide appropriate reinforcing stimuli to follow their appearance. Instead of looking for the stimulus-response connections, one waits for the operant behaviour or takes opportunistic advantage of their appearance in the natural situation and then manipulates reinforcers or stimulus aspects of the environment in order either to increase the probability of the occurrence of behaviour in this form, or to shape it in certain directions of greater utility to the organism."

The generality and straightforwardness of the behavioural approach have yielded rapid and widespread application. These applications have indicated other advantages of the approach:

1. effective in altering a wide range of behaviours with different populations

2. the need to be specific and the focus on observation "has helped teachers become more aware of children's qualities and more conscious of their own capabilities" (Apter, 1982)
3. emphasis on praise and attention to positive behaviour

c) Biophysical

Included in this perspective would be approaches which emphasize physical interpretations or treatment of psychosocial disorders; for example, neuropsychology or pharmacotherapy. Neuropsychology focuses on central nervous system functioning and related behaviour connections. Conditions such as aphasia or epilepsy are interpreted as being due to brain damage or dysfunction. Minimal brain dysfunction (MBD) is the general term used to refer to a cluster of behaviours which include "hyperactivity, impulsivity, perceptual motor deficits, emotional lability, distractibility, short attention span, and problems of coordination" (Schwartz and Johnson, 1981). There is controversy about whether children displaying these behaviours are actually brain-damaged, underlining the difficulty of relating behaviours to brain functioning. In addition, the MBD syndrome is an area of considerable overlap between psychosocial disorders and learning disabilities.

Pharmacotherapy for children with psychosocial disorders consists of three main types of medication for three corresponding groups of symptoms (Shaffer, 1976). Stimulants, particularly methylphenidate (Ritalin trade name) are used to reduce distractibility, overactivity and disruptiveness, and to

increase attention span. Chlorpromazine, haloperidol and other major tranquillizers used as antipsychotic drugs with adults are prescribed for children to reduce symptoms of aggression, obstinancy and explosiveness. The third type of medication is a broader group including minor tranquillizers or sedatives, anti-convulsants, and anti-depressants. Apart from the anti-convulsants, used primarily to treat epilepsy, the drugs in this group are used in a variety of anxiety disorders, enuresis, school phobia and sleep disturbances. Conners and Werry (1979) separate the anti-depressants from the minor tranquillizers as a fourth type of medication.

Pharmacotherapy for children is neither as neat nor straightforward as the foregoing simple categorization might suggest. Indeed, considerable controversy arises from uncertainties about the efficacy and hazards of using psychotropic drugs with children. Because of greater diagnostic ambiguity with children's disorders than adults', it has been more difficult to clarify what dosage levels will yield what kind of response patterns in which disorders. At the same time, undesirable side effects of various levels of severity accompany the therapeutic effects of the three types of medication, although concerns about side effects relate more to high dosages and long-term administration.

The most common side effects with stimulants are sleeplessness and loss of appetite. Of greater concern are possible drug dependence and inhibition of physical growth, the latter more strongly suspected but still not established. Major tranquillizers produce a broader range of side effects, but few

are serious. The most common unwanted effects are drowsiness, nausea and excessive weight gain. Serious possible effects include corneal opacity, neurological symptoms (dyskinesia, increased seizuring in children with epilepsy).

d) Cognitive

While not syntheses of the psychoanalytic and behavioural perspectives, cognitive approaches do draw from both earlier perspectives and can be viewed as straddling them with varying degrees of relative emphasis on one side or the other. The primary emphasis is on conscious thoughts rather than unconscious drives, and behaviour is interpreted as resulting from cognitive patterns (attitudes or ways of thinking). Psychosocial disorders thus are interpreted as being due to faulty or inadequate thinking.

Beck (1976) suggests that a key element of cognitive therapy similar to psychoanalysis is pursuit of insight:

> "Unlike behaviour therapy, the insight therapies assume that a lasting modification in a person's aberrant reactions depends on more profound personality change than simply unlearning a bad habit".

However, rather than looking for hidden meanings in a patient's thoughts, the cognitive therapist assists the patient to arrive at interpretations of behaviour and thoughts within the scope of his conscious awareness.

The cognitive perspective shares with the behavioural perspective an emphasis on altering current and future circumstances rather than dwelling on the past. A number of behavioural techniques are employed, although the interpretation

of their mode of effect is not confined to a strict social learning model. Cognitive approaches are more appropriate with adolescents than younger children with psychosocial disorders because of the required level of cognitive awareness. Similarly, cognitive therapy is not employed with children who have low IQ's or are psychotic.

The cognitive perspective is very new and is likely to evolve substantially in the next few years. Teachers can be expected to find the perspective congenial since it is the most similar of the five therapeutic perspectives to a common eclectic approach to teaching. Moreover, many educators have already attempted behavioural concepts, though applying them more loosely than in a strict behaviour modification form.

e) Interactionist Perspective

Compared to the four theoretical perspectives examined so far--psychoanalytic, behavioural, biophysical and cognitive--the interactionist perspective has been more a way of viewing psychosocial disorders than an accepted service approach. This reflects the predominantly positivist thinking of most practicioners that facts and values can be distinguished from each other, and psychosocial disorders are phenomena that can be objectively identified as conditions of individual children. Fundamental to the interactionist perspective is the proposition derived from phenomenological philosophy that psychosocial disorders are socially defined. That is, the response of some people to certain acts is to label them as indicating a psychosocial disorder.

In the interactionist perspective, the interpretive

focus shifts from the meaning of acts in terms of the actors' psychological state, to the meaning the acts have for observers. This shift takes on greater significance for psychosocial disorders than other special education categories such as physical disabilities because the severity and duration of behaviours is more difficult to assess. Accordingly, it is not surprising that great variation is reported between parents and teachers (e.g. Rutter, et al, 1970; Offord, et al, 1984) in completion of behaviour checklists.

The labelling of acts, and in turn of those committing acts, as "disordered" is great cause for concern because of the adverse consequences. Enrolment in special education services for a psychosocial disorder is not a favourable distinction and may induce an increase in the acts which occasioned the labelling, leading to further negative consequences.

An illustration of the interactionist perspective was the criticism which arose about lower I.Q. scores among minority populations. Initially, these were taken to indicate lower intelligence and children were treated accordingly (e.g. streamed into vocational school programs). It has since been increasingly recognized that lower I.Q. scores can result from the culture-specific nature of test items and provide misleading evidence of intellectual ability.

The emphasis on the social dimension of psychosocial disorders deriving from the interactionist perspective also leads to the more critical perspective of what interests may influence disorders being identified. For example, it is more convenient for teachers to be rid of aggravating behaviour from

their classrooms. Or, consider the interests of the special education establishment to expand their services (Tomlinson, 1982). Interests may not be as blunt or overt as just suggested, but to the critical observer there is a coincidence of power and social control to ponder:

> "Teachers are, quite simply, much more powerful than pupils and ascriptions of "maladjustment" to them dare not be made overtly unless formal certification of mental illness is a possibility. Only children (and perhaps adults in the least powerful sections of society) can be subjected to these sub-psychiatric labels." (Hargreaves, 1978)

Service implications of the interactionist perspective range from modest revision to radical rejection of existing practice. In modest terms, it would be recommended that staff guard against discriminatory bias in their expectations for children's behaviour. Caution is advisable in the identification of psychosocial disorders. Focus should be on acts and clarification of why they occur, rather than labelling children, as tends to occur with existing ascertainment and categorization schemes. More fundamental implications would be in the direction of re-examining the rules of conduct which are the criteria for deviant acts, of questionning whether change on the part of staff is required more than by children, and of reconsidering what services to provide to children acting in ways which are interpreted as signs of psychosocial disorders. One illustration of thinking in the direction of questionning and reconsideration is the radical non-intervention approach to delinquency. (Schur, 1973)

f) Ecological Approach

The ecological approach is the newest perspective on psychosocial disorders in children and arises from the more general awareness of systems and environment which has flourished recently. It goes much further in emphasizing the importance of environmental aspects than does the psychodynamic mechanism of experience disrupting inner processes or the behaviouristic mechanism of reinforcement of behaviour by the environment.

Ecology focuses on the interaction between organism and environment as the central clue to understanding psychosocial disorders and dealing with them. The result is an important shift in expectation from primary emphasis on the "disturbance" of the individual to a more balanced emphasis on the problems of interaction between the individual and his environment. And, for psychosocial disorders, the main element of that environment usually is the surrounding people. Apter expresses the ecological principles of intervention as:

1. "Each child is an inseparable part of a small social system.
2. Disturbance is not viewed as a disease located within the body of the child, but rather as discordance (a lack of balance) in the system.
3. Discordance may be defined as a disparity between an individual's abilities and the demands or expectations of the environment--"failure to match" between child and system.
4. The goal of any intervention is to make the system

work, and to make it work ultimately without the intervention.

5. Improvement in any part of the system can benefit the entire system.
6. This broader view of disturbance gives rise to three major areas for intervention: a) changing the child, b) changing the environment, c) changing attitudes and expectations."

(Apter, 1982)

The increased emphasis on environment has profound implications for interpretation of and responses to psychosocial disorders. The locus of change shifts to activities which have not generally been regarded as treatment or education. The planned change orientations of organizational development, for example, may be more applicable in some circumstances than treatment or education for an individual child.

Family therapy has been the most substantial area of application of ecological principles to remedy children's psychosocial disorders. Agencies have been rapidly redirecting their services in the family therapy direction and the full impact of the paradigm has not yet occurred (Hoffman, 1981). A related example is the extension of systems focus to the neighbourhood or kinship group using "network therapy" (Attneave, 1976).

One of the earliest ecologically oriented approaches to children's psychosocial disorders was Project Re-Ed, initiated by Nicholas Hobbs (1966). Other areas of activity illustrating the ecological approach are advocacy and prevention, both of

which have received widespread attention in the 1970's. It is too early to assess the major contributions and limitations of ecological approaches, but the potential is evidently great for transforming perceptions of and responses to children's psychosocial disorders.

5. SUMMARY

Psychosocial disorders are a complex, diverse range of conditions identified as occuring in relatively substantial numbers among children. Prevalence studies indicate that one or two students per classroom, on average, will display some forms of behaviour serious enough and for sufficient duration to be ragarded as needing special services. Attempts to understand and remedy psychosocial disorders in children have developed into a number of perspectives--psychoanalytic, behavioural, biophysical, cognitive, interactionist and ecological-- which serve to demonstrate the complexity and remaining perplexity about the phenomena.

CHAPTER 3

EDUCATION AND TREATMENT SERVICES IN ONTARIO

As noted in Chapter 1, the two main service sectors for children with psychosocial disorders can be distinguished as treatment and education. The basic structure of both sectors is outlined in this chapter, with primary emphasis on education since classroom staffing is the focus of the research study. Only the barest outline can be provided of what is an extensive and very complex service system.

1. EDUCATION SERVICE

The British North America Act of 1867 granted general jurisdiction over education to provincial governments in the Canadian Confederation. Accordingly, the provincial Ministry of Education is the central focus of education services in Ontario. Local responsibilities for schooling are delegated to school boards in a manner somewhat comparable to the relationship in England and Wales between central government and local education authorities (LEA) (Regan, 1977). The boards exercise considerable autonomy in administration of schools. At the same time, the Ministry actively involves itself in many areas of education policy regarding school attendance, curriculum, and staffing. Unlike the LEA's, Ontario school boards are not as closely integrated into local government structure. Board members (trustees) are elected separately, there are separate administrative structures, and funds are received directly from the provincial Ministry of Education.

The boards set their own tax rates for local revenue, although it is added to the local government levy and collected jointly. A further difference between LEA's and Ontario school boards is that the latter have no role in post secondary education.

In total, there are 194 school boards in the province of Ontario, but only 55 have more than 10,000 students. The large total number of boards is due mainly to the existence of over 50 separate (Roman Catholic) elementary level boards, and to the fact that there are numerous small communities, mostly in Northern Ontario, each with their own school board.

In terms of revenue, school boards receive approximately half their funds in the form of provincial grants, raising most of the remainder through local property taxes. Ontario school boards administer about 85% of the total expenditure for elementary and secondary education. Private schools account for perhaps 3-5% and the remainder is direct Ministry expenditure, mainly for special programs (e.g. for blind and deaf children). Private schools account for a notably smaller proportion of students than in the U.K.—less than 5% in Ontario compared to more than 10% in Britain. As is discussed in the following section of this chapter, private school provision is very substantial in the U.K. for children with certain handicaps.

The aggregate size of the educational service provided by Ontario school boards is summarized in Tables 3.1 and 3.2. Table 3.1 shows that nearly 2 million students are enrolled, of which 22% are in separate (Roman Catholic) schools. Table 3.2 indicates there are almost 100,000 teachers and aides employed

Table 3.1 TOTAL ONTARIO STUDENT ENROLMENT AT SEPTEMBER 30, 1977

ELEMENTARY		
Public	907,777	
Separate	421,619	
		1,329,396
SECONDARY *		613,830
	TOTAL	1,943,226

* Secondary level separate schools not permitted. Elementary level separate schools can include up to Grade 10.

Source: 1978 Annual Report, Ontario Minister of Education

Table 3.2 TOTAL TEACHERS AND AIDES IN ONTARIO AT SEPTEMBER, 1977

	TEACHERS *	PAID AIDES *	VOLUNTEER AIDES **
ELEMENTARY			
Public	42,556	1,116	24,698
Separate	19,762	297	5,978
SECONDARY	36,215	337	412
	98,533	1,800	31,088

* Full-time and full-time equivalent for part-time

** These are total numbers, not full-time equivalents. Most work only a few hours per week.

Source: 1978 Annual Report, Ontario Minister of Education

in elementary and secondary schools, or approximately one teacher for every twenty students.

Special Education

In recent years an increasingly substantial share of educational provision has been devoted to students with various "exceptionalities". Requirements for special education in Ontario are grouped into five categories. "'Exceptional pupil' means a pupil whose behavioural, communicational, intellectual, physical or multiple exceptionalities are such that he is considered to need placement in a special education program" (Ontario Revised Statutes, 1980 (b)). Most special education is provided through school boards, with the provincial Ministry operating only a few schools in certain areas of handicap (blindness, deafness, specific learning disabilities).

The Ontario Education Act divides the duties and powers of school boards broadly into two groups: what "every board shall" do and what "a board may" do. Special provision for exceptional students has been in the second, optional category. In 1980, however, an amendment was passed which over a phased period to 1985 will change special education from a permissive to a mandatory service (within certain requirements and conditions).

In any case, most school boards have been developing extensive special education services over the past 20 years. In terms of numbers of students, approximately 12% are identified as receiving some form of special instruction, while in terms of expenditures, the proportion is somewhat higher (perhaps 15%). Average cost for students in self-contained classes is more than

twice what it is for students in regular classes but the additional cost for students on a withdrawal basis is only one-third above regular student average cost. Further to this are the additional costs of support services for special education (aides, psychologists, etc.)

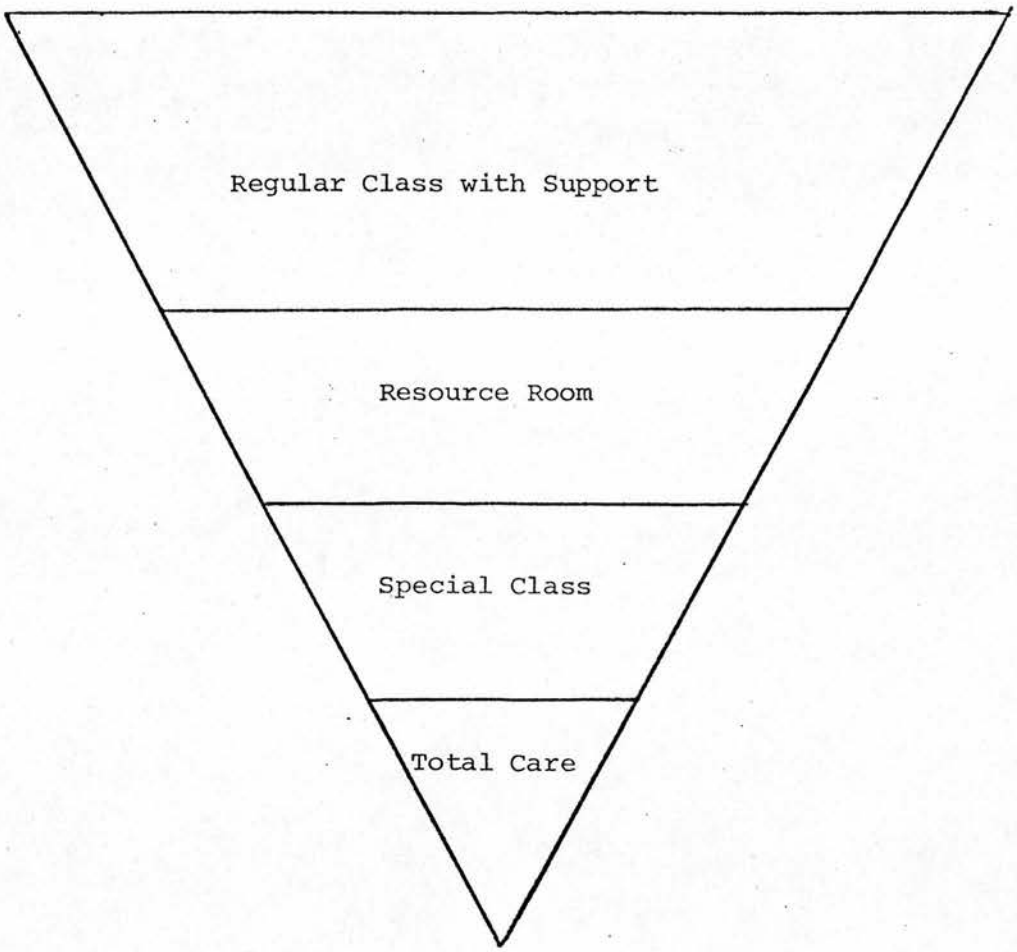
Special education takes many different forms ranging from small amounts of extra assistance within a normal classroom to 24 hour residential placement. The gradation of service is most commonly portrayed as a pyramid (Figure 3.1) proposed by Deno (1970). This "Cascade System of Special Education Service" emphasizes the narrowing flow of referrals at increasingly intensive levels of service. Four main levels are identified:

1. regular class with support
2. resource room
3. special class
4. total care

As illustrated in the Warnock Committee report, there can be several variations within each category (U.K., Department of Education and Science, 1978 [b]). (Also see Cope and Anderson (1977) for description of a similar continuum of eductional provision as illustrated by the particular requirements for physically handicapped students.)

Support can be provided in the regular classroom in different ways. An aide can be added to assist the teacher. More commonly, a specialist teacher can come periodically to the classroom or provide advice to the teacher about ways of meeting the requirements of exceptional students. The resource room type of special education permits considerable variation in

Figure 3.1 CASCADE OF SPECIAL EDUCATION SERVICES *



* from Deno (1970)

particular arrangements. It can be equipped with special equipment, materials, or instruction that students may need. The amount of time a student spends in the resource room can be varied from occasional to a considerable period every day. The Warnock Committee supported a substantial form of resource level provision: "We see a resource room, or suite of rooms in a large school, where special materials and equipment are kept and to which groups of children may be withdrawn for special help. In some instances it may also be the class base for children from which they join ordinary classes for a considerable part of the normal school day. We also see it as a base in which visiting specialist teachers may work with children with special needs and where the school's special education teachers can prepare their work when they teach children elsewhere." (U.K., Department of Education and Science,1978 [b]).

Special class placement usually is reserved for those students who need to be out of a regular classroom for more than half of the school day. If the special class is located in another school, the integration possibilities will be reduced. Usually each special class is designated for a particular type of condition such as physical or mental handicap. Since many schools would not have sufficient numbers of students with the same handicap, placement in a special class frequently means moving to another school. The fourth level of Deno's cascade of special education is total care. It normally implies that the student is in a residential program which provides service extending beyond school hours. Examples of the total care level of service are hospitals, residential special schools, and

treatment centres.

Table 3.3 summarizes the provision of special education in Ontario. It is divided into special class and resource withdrawal sections, the latter covering both support in regular classes and resource rooms. Note that only one-third of special provision (4.3% out of 12.6%) is in special classes. Table 3.4 shows the number of teachers and aides providing special education to the students of Table 3.3. For self-contained special classes, the ratio of students to teachers is approximately 10:1, compared to 20:1 for total education (Tables 3.1 and 3.2).

It is difficult to compare special education enrolment figures between jurisdictions because of variations in service organization and data procedures. However, it does appear from available information that total provision of special services in the U.K. is approximately half that in Ontario (compare Tables 3.3 and 3.5), and worthy of special note is the fact that the special school or class provision is a lower proportion of the total in U.K. than in Ontario: 1/4 vs. 1/3. This may be due in part to the fact that most Ontario special classes are located in ordinary schools and thus more accessible for referrals, whereas most U.K. special classes are in special schools. Moreover, many of the U.K. special schools are operated independently, or partially independently, of the local education authorities. In 1977, there were approximately 300 of these schools in total, accommodating over 10% of the children in special schools and the proportions of three particular groups of students were much higher than 10%: blind, deaf and

Table 3.3 SPECIAL EDUCATION PROGRAMMES IN ONTARIO - SEPTEMBER, 1977

	PUBLIC ELEMENTARY	SEPARATE ELEMENTARY	SECONDARY	TOTAL
A) SELF-CONTAINED CLASSES				
Emotional Disturbance	1,189	424	714	2,327
Learning Disability	5,983	1,505	630	8,118
Educable Retarded and Slow Learners	16,758	4,861	37,983	59,602
Others	5,338	1,396	5,868	12,602
TOTAL SELF-CONTAINED	29,268	8,186	45,195	82,649
		% OF TOTAL STUDENTS - 4.3%		
B) RESOURCE WITHDRAWAL *				
Emotional Disturbance	1,656	572	1,131	3,359
Learning Disability	5,460	2,711	2,186	10,357
Educable Retarded and Slow Learners	4,707	3,523	2,028	10,258
Other **	88,527	30,992	17,684	137,203
TOTAL RESOURCE WITHDRAWAL	100,350	37,798	23,029	161,177
		% OF TOTAL STUDENTS - 8.3%		
TOTALS	129,618	45,984	68,224	243,826
		% OF TOTAL STUDENTS - 12.6%		

* Since some students receive more than one programme, the total number of students is less than number of programmes -- by perhaps 10%.

** A substantial proportion (more than 2/3rds) are speech or remedial reading programmes.

Source: Ontario Legislature, Sessional Paper No. 74, Second Session, Thirty-first Parliament, 1978

Table 3.4 SPECIAL EDUCATION TEACHERS AND AIDES IN ONTARIO, APRIL 1977

	SPECIAL CLASS TEACHERS
ELEMENTARY	
Emotional Disturbance	232
Learning Disability	555
Educable and Slow Learners	1,733
Other	444
TOTAL	2,954
SECONDARY	
Emotional Disturbance	16
Learning Disability	49
Educable and Slow Learners	3,652
Other	894
TOTAL	4,611
Other facilities (mainly psychiatric)	285
Withdrawal and resource teachers - Elementary 1,199	
- Secondary 138	
Other withdrawal and support 2,130	
TOTAL	3,467
OVERALL TOTAL FOR TEACHERS	11,317

Aides - Paid 709 (41% of all paid aides)
Voluntary - 881

Source: 1978 Annual Report, Ontario Minister of Education

Table 3.5 SPECIAL EDUCATION PROVISION IN U.K. (1977)

		% OF TOTAL STUDENTS
SPECIAL SCHOOLS		
Maladjusted	14,568	
Educationally subnormal and mentally handicapped	90,769	
Other	37,018	
TOTAL SPECIAL SCHOOL	142,355 *	1.3%
DESIGNATED SPECIAL CLASSES		
(England and Wales only)	22,000 *	.2%
UNDESIGNATED CLASSES (Part-time)		
(England and Wales only)	458,087 **	4.3%
	642,442	5.8%

Sources: * Education Statistics (U.K., 1978 (a))
** Warnock Report (U.K., 1978 (b))

maladjusted (U.K., Department of Education and Science, 1978 [b]).

Though not shown in Table 3.5, another comparison between U.K. and Ontario significant to this staffing study in special education concerns teacher aides. Table 3.4 notes that more than 40% of paid aides in Ontario are in special education--mostly for children with psychosocial disorders or mental handicap. There does not appear to be a corresponding degree of use of aides in the U.K. (Laslett, 1977).

2. EDUCATION OF CHILDREN WITH PSYCHOSOCIAL DISORDERS

Expansion of special educational provision for children with psychosocial disorders in Ontario has been rapid and recent, although there were some earlier pioneers. The first separate classes in Ontario were established in the early 1960's in the Metropolitan Toronto Boroughs of Etobicoke and North York, and in the cities of Ottawa and London. The Etobicoke experiment is particularly relevant to this research, initiating as it did a staffing model of two teachers in a larger class, rather than individual teachers in smaller classes. Later in the 1960's as the number of special classes grew, the predominant pattern was individual teachers or a teacher with an aide.

The expansion which began in the late 1960's and extended into the mid-seventies was part, at least in Ontario, of a general focus on services for children with psychosocial disorders. The initial political and governmental initiatives are summarized in Vol. 3 of Ontario's Educative Society (Fleming, 1971). Political pressure came particularly from

Stephen Lewis, a young, newly elected member of an opposition party in the Ontario Legislature; with the Association for Emotionally Disturbed Children also being an active advocacy group (Ontario . Association, 1965). The main government initiative was a 1967 white paper on "Services for Children with Mental and Emotional Disorders" (Ontario, Ministry of Health, 1967). Preceded by a major interdepartmental committee report, (Ontario, Ministry of Health, 1966), the paper proposed a coordinated plan of action by the Departments of Health, Education, Public Welfare, Reform institutions and Attorney General. Most of the new funds were to go towards development of a regional network of assessment and treatment facilities. The educational component was described as staff consultants to work with school boards and teacher training programmes to promote provision of service for children with psychosocial disorders. In practice, only one consultant was appointed initially and three added a few years later. Being few in number, with few resources and a vague mandate, the consultants could have only limited influence (Bowers, 1980).

With the subsequent introduction of a Children's Mental Health Centres Act in Ontario (1968-69; proclaimed 1971),awareness of the service requirements of children with psychosocial disorders was increased. It was further recognized as a result of the widely-publicized CELDIC report, One Million Children, "CELDIC" was a Canadian "Commission on Emotional and Learning Disorders In Children" (1970) which thoroughly reviewed the needs of this large group of children and developed a wide range of recommendations for improvements to services. It was

initiated by several interested national voluntary organizations with broad sponsorship, including Dr. Barnardos, provincial Departments of Education, and private foundations.

The CELDIC report contained twelve recommendations specifically directed at improving education for children with emotional and learning disorders. Emphasis was placed on meeting special needs as much as possible within regular school curricula and activities to minimize isolation of children with special needs. The skill and understanding of regular classroom teachers had to be increased. Experimentation and action research was recommended to improve educational programs, especially for the adolescent age groups where special provision was particularly deficient.

The net results of the various influences such as those just outlined was a substantial expansion of services, including special education classes. In a 1972 survey of Ontario school boards regarding programs for disturbed children, Gill and Silverman (1973) found that 40% of boards had full-time special classes for disturbed children and that a total of 53% had part-time special classes. Several other forms of service such as home instruction and regular class support also were provided by close to half of all boards. In subsequent years, provision has continued to expand, although no survey corresponding to that by Gill and Silverman has been done. We do know from Table 3.3 that 2,327 students were in classes for disturbed children in 1977, whereas in 1971, the number was only 915. Provision on a withdrawal basis has grown apace.

3. AGREEMENTS BETWEEN TREATMENT CENTRES AND SCHOOL BOARDS

Before describing the agreements by which school boards and treatment centres jointly operate special classes, the organization of treatment service for children with psychosocial disorders will be briefly outlined. In Ontario, care and treatment services for children are organized very differently from educational services: there is no local authority comparable to the school board. Licensing, most of the funding and general responsibility for service agencies is a direct provincial government responsibility, currently under the Ministry of Community and Social Services. A broad range of residential and non-residential facilities are available, mostly from privately incorporated but largely government funded organizations.

Of primary interest in this study is the children's mental health centres category. Licensed to serve children with "mental, emotional or psychiatric disorders" (Ontario, Revised Statutes, 1980 [a]), they are the primary service for children with psychosocial disorders. The U.K. counterparts to the children's mental health centres would be the child guidance clinics in terms of non-residential service, and the schools for maladjusted children in terms of residential service.

Many of the centres were new agencies created as a result of the Children's Mental Health Centres Act of 1969. This Act was part of the general service initiative for disturbed children following the 1967 White Paper. When the act came into force in 1971, 21 centres were designated. In the next five years, more were added and there are now 82 centres in

total. They are dispersed, somewhat unevenly, across Ontario, a disproportionate number being clustered around Toronto, and only a few covering the northern part of the province. Most children's mental health centres are relatively small (average budget $1 million), offering primarily non-residential treatment but with substantial residential services in some centres, as well.

Many centres have their own educational arrangements, in part to accommodate those children who would be difficult to handle in the regular school system. Another reason for schooling at some treatment centres has been to ensure consistency of approach through a full 24 hour service programme. Prior to 1974 (when the agreement programme was introduced), funding of treatment centre educational classes was arranged in a variety of ways:

1. the Ministry operating the facility also operated school activity (e.g. training schools)
2. the Ministry of Education operated the educational part of the facility (e.g. Thistletown Regional Children's Centre)
3. the facility operated the educational part as a private school with funding from the Ministry licensing the facility (many children's mental health centres)
4. school board teachers came to the facility as if it were a home instruction arrangement (e.g. Children's Hospital of Eastern Ontario)
5. the facility arranged with a school board for one of

its schools to be located at the facility (e.g. Dellcrest Children's Centre).

The arrangements not involving school boards (Nos. 1, 2 and 3) were more common (especially No. 3) prior to 1974, and the resulting separation from the educational mainstream became an increasing concern. Being part of a treatment service put the educational component at a disadvantage in terms of awareness or priority for its requirements. In many facilities, education was quite neglected, being regarded as little more than daytime babysitting. Accordingly, it was less likely that good teachers would be attracted to these locations. In most cases, they would have to leave the school board to work in a treatment centre relatively isolated from education colleagues, and typically salaries were also lower. Not only did all these drawbacks exist, but the student response would probably seem less rewarding--slower progress, persistent and frustrating demands.

It remains unclear to what extent the Agreement Programme was prompted by these disadvantages. There were other considerations which probably also influenced the decision. As noted above, the number of children's mental health centres was increasing rapidly after 1971. School boards became concerned about increasing requests for service from the centres and about the fact that additional numbers of children with psychosocial disorders were being sent to community schools. Particularly in the jurisdictions of some large urban boards, the number of treatment facilities was growing quickly and straining their

already extensive special education activities. Since these facilities were mostly provincial in orientation and received children from other parts of the province, some form of additional provincial funding of the education components was demanded.

A further factor may have related to the funding of private schools, which as a group has been attracting increased enrolment since the 1960's. Since some of the educational components at treatment centres were licensed as private schools and receiving provincial funds, this could be somewhat embarrassing. It looked rather inconsistent for the provincial government to be funding educational components of treatment centres directly when overall provincial government policy was not to fund private schools.

An internal review of the situation by the Ministry of Education in 1973 recommended that a uniform funding arrangement be introduced, based on the existing method (Regulation 202)* by which the Ministry of Education was reimbursing school boards for education of those children in detention homes, children's welfare residences and training schools who attended community schools. Since the facilities with educational components were mostly provincially licensed with clients from several different communities, the Ministry accepted the main

*There are a large number of legislative regulations which govern financial relationships between school boards and the Ministry of Education.

funding responsibility for the accompanying educational service. Under the new arrangement, approved in 1974, reimbursement would be extended to children educated at the facilities as well as to those attending local schools. School boards would assume operation of the educational service at approved facilities by making agreements with those facilities. Since the funding authorization for the reimbursements was under Section 28 of General Legislative Grants, it became known as the "Section 28 Agreements Programme" (now Section 15 as the grant regulations were renumbered).

Initially, the approved locations for funding were psychiatric facilities (primarily children's mental health centres) and detention/observation homes. In addition to the equivalent of a teacher's salary, the initial Agreement Programme included additional payments for furniture and equipment (one-time) and instructional supplies, plus consultative services (annually). These arrangements came into effect in September, 1974. In 1975 the regulations were amended to include designated group homes and community facilities for retarded children, and the equipment reimbursement was increased. Amendments in the following year included a clause requiring written agreements and an increase in the annual instructional supplies allowance which was now also to include "administrative" and "supervisory" services. A further amendment confirmed that the facilities are obliged to provide suitable accommodation for the educational activity.

Operation of the Agreement Programme consists primarily of

school boards and treatment centres agreement to be involved jointly in special classes. When an agreement is arranged, it is then referred to the Regional Office of the Ministry of Education for approval. This arrangement enables the Ministry to ensure that the Programme operates as intended, particularly that:

1. agreements conform to regulations
2. expenditures are under control
3. agreements are only established where it can be confirmed that a group of students is unable to attend a local school.

This last criterion has been described as the Ministry's primary concern since school boards might want to increase the number of agreements by including all facilities in the eligible groups. Moreover, the number of teachers under an agreement could be increased by including all students at a treatment centre rather than having some attend school in the community. These extensions of the Agreement Programme would be contrary to the goal of keeping children in community schools whenever possible, and certainly many students in group homes would not require an agreement class.

Now in its tenth year, the programme consists of more than 200 agreements and includes over 650 teachers, at an annual cost of approximately $20 million. Less than half of the agreements are now with children's mental health centres, with the remainder being distributed among psychiatric hospitals and regional children's centres (20%), group homes (25%), hospitals (10%), and observation/detention homes (5%). Almost all

children's mental health centres in Ontario have agreements with school boards for at least some of the children they serve. The centres without agreements have all the children attend community schools and thus do not need agreements. Table 3.6 summarizes the growth and current descriptive characteristics of the agreement programme. Since inception of the programme in 1974, there has been rapid and relatively steady growth. Most of the agreements are relatively small (73% for one or two teachers), reflecting the small size of most treatment centres and other facilities participating in the programme.

In January 1978, a survey of treatment centre agreements was conducted under the auspices of the Ontario Association of Children's Mental Health Centres since some centres were encountering problems with their agreements and were curious about others' experiences. Respondents provided a copy of their agreement and answered several questions about its operation. As reported in the February, 1978 issue of the Association's Newsletter (Ontario Association, 1978), there is considerable general satisfaction with agreements among member centres. The main advantages of agreements as seen by treatment centres are: better re-integration of students into community schools; better overall linkage to education; and, better service for children. The main disadvantages cited were the additional interorganizational conflicts to resolve, and the difficulties of clarifying respective staff roles.

The survey committee concluded that the question of the respective roles of education and treatment is emerging as a major focus of thinking and discussion now that the agreement

Table 3.6 SUMMARY OF AGREEMENT PROGRAMME FOR ONTARIO SCHOOL BOARDS AND TREATMENT CENTRES

GROWTH RECORD

Year	Number of Agreements	Number of Teachers	Number of Students
1976	91	315	1804
1978	123	441	2256
1980	163	563	3000
1982	228	672	3657

SIZE OF AGREEMENTS

As of September 1982, Number of Full-time Teachers

Per Agreement	Agreements
1	117
2	49
3 to 5	44
6 or more	18
TOTAL	228

Source: 1976-80 Education Statistics, Ontario Ministry of Education, 1976, 1978 and 1980 editions

1983 Ontario Ministry of Education, Statistics Branch

idea has gained general acceptance. This view is shared by the Ministries of Education and Community and Social Services. Some people consider the services to be of equal importance and quite separate. Others regard the educational part as only an adjunct to the treatment service, the latter being of primary importance. Still others argue that education is actually an integral part of the overall treatment programme of a centre.

Initially, most agreements did not specify a joint classroom staffing model. Most agreements had a general clause stating that the treatment centre would provide any necessary therapeutic support for the educational activity. In practice, collaborative arrangements were altered significantly by the agreement programme. mainly by increased involvement of child care workers in classrooms and as a result, classroom staffing policy changed more than had been anticipated. Most agreements now specify that treatment centres will provide one child care worker for each classroom to work with the teacher assigned by the school board.

On the other hand, some treatment centres have been wary of the change from independent operation of their own school activity to joint operation with school boards (which generally are much larger and more powerful than treatment centres). An additional drawback for treatment centres is fulltime commitment of child care staff in classrooms, rather than also being available to other components of client service.

4. CONCLUSION

Rapid expansion in recent years of special classes for Ontario children with psychosocial disorders has yielded a

variety of classroom staffing models. Many school boards have been placing aides in classes to assist teachers. Development of the Agreement Programme for joint operation of classes by school boards and treatment centres has resulted in a large number of teacher-child care worker staff combinations. In Part II (Chapters 4 to 6), a framework will be introduced for investigating the implications of these staffing developments.

PART II

THEORETICAL FRAMEWORK

CHAPTER 4

CLASSROOM STAFFING MODELS

As indicated in Chapter 3, recent developments in services for children with psychosocial disorders have resulted in new staffing models in classrooms. Teacher aides and child care workers are jointly staffing an increasing number of classes with teachers, yielding an overall pattern of four distinct models:

1. Teacher with aide (T-A)
2. Teacher with child care worker (T-CCW)
3. Two teachers (T-T)
4. Single teacher (T)

The purpose of the research reported in this thesis is to explore whether different staffing models make significant differences to classrooms. Chapters 4, 5 and 6 introduce a framework for analysing that question.

The purpose of Chapter 4 is to consider whether it is reasonable to anticipate that different staffing models, particularly when aides or child care workers are involved, will make significant differences in classrooms. It will be proposed that such differences are likely because of the different characteristics and modes of operation of the three staff groups which comprise the staffing models--teachers, aides, and child care workers. To analyse the three staff groups, role concepts will be employed. Role concepts have proved to be durable tools in sociology, anthropology and psychology but are not without

their difficulties.

In commenting on a collection of papers which provides an overall critique of role concepts, Jackson concludes:

> "While in more than one paper it is suggested that we should abandon the concept [of role] altogether, it is precisely because of the ambiguities which attach to it that it is seen as unsatisfactory. In other words most sociologists would readily admit that once one can be precise about the limited area in which one is specifying role characteristics, the concept has a demonstrable utility and an analytical precision." (Jackson, 1972)

Recently, Coulson (1980) summarized the difficulties with role concepts as three principal problem areas:

i) overuse as a vague analogy

ii) use as a functional, deterministic explanation of behaviour

iii) assumption of consensual patterns of expectations

The next two sections of this Chapter (4.1 and 4.2) address these problem areas in the process of introducing role concepts for use in this inquiry into the effects of different staffing models. The approach taken is not dissimilar from the view expressed by Coulson:

> "Definition in terms of expectations gives a much more flexible, dynamic model, in which people's behaviour in positions depends on an interaction between their own learned expectations and the pressures put upon them by others with possibly different expectations. It also depends on the power others have over them, an interaction

which will be in constant conflicting change as power relationships change -- in other words, a dialectical relationship." (Coulson, 1980)

1. SOCIAL ROLE CONCEPTS

The most common way of conveying the idea of social role is the dramatic analogy as expressed by Shakespeare in As You Like It: "All the world's a stage and all the men and women merely players...". It conveys the everyday awareness that there are some regular patterns to behaviour (somewhat inaccurately since everyday life is more improvised than having precise scripts to follow). The regular patterns are especially apparent in work organizations where any manager, clerk or secretary can be observed to behave somewhat — but not exactly -- like every other manager, clerk or secretary.

The main elements of the role approach are position, role and expectation. "Position" is used to designate the location of a class or category of actors in a system of social relationships. Categories are essentially heuristic tools, and the specification of categories can vary according to the particular social relationships or level of inclusiveness. For example, a teacher in one of the classes surveyed for this study could be a teacher in comparison with non-teachers, but a special education specialist among teachers.

The concept of role is used in various ways to refer to the active element of a position. Views about the nature and extent of the concept vary. For example, to some, role is the behaviour expected of a person; to others, it is the behaviour actually observed. Role as observed behaviour emphasizes the

self-defining possibilities within the constraints of social structure. Because norms are frequently set in general terms, there is scope for individual variation by occupants of a role.

Turner (1974) suggests that the varying views about role as expected or observed behaviours be reconciled by recognizing three interrelated conceptualizations. In addition to the first conceptualization which emphasizes role expectations, there could also be:

a) conceptual emphasis on the perceptions and interpretations of expectations which result from individual's subjective assessments; and, also

b) conceptual priority on overt behaviour as "role enactment".

The picture of roles which each conceptualization provides is likely to be somewhat different. Turner recommends use of all three perspectives to gain the most complete composite representation of the role situation. The suggested reconciliation of the three conceptualizations downplays the significance of the differences in perspective between them. Whereas role as expectation comes from the structural tradition in sociology, the other two conceptions--perception and enactment of roles--reflect the interactionist perspective:

> "....the interactionist perspective is more likely to stress the processual, developmental, and even creative aspects of role behaviour. Derivative concepts such as role-playing and role-taking, stressing the developmental aspects of role interaction, occupy a more prominent place in this orientation than in the structuralist view of

roles."

(Nye, 1976)

Since the focus in this study of special classes is on the effects of a "structural" change (i.e. - different staffing models), the perspective of role as expectation was adopted. Role as expectation emphasizes the normative influence of social structure on behaviour. The basic idea is that messages with varying degrees of explicitness are directed at any occupants of a role. Accompanying the expectations are consequences (i.e. sanctions) for ignoring the messages. For example, parents in the role of child care are expected to provide for the physical needs of their children. If they fail to do so, social disapproval is likely and ultimately removal of their children into governmental or agency care.

Gross et al (1958) note that role as expectation could be used either in a predictive sense or an evaluative sense. That is, it could be about what people will do or think, or what they should do. The latter sense is the one usually adopted in role analysis. Popitz (1972) includes only obligatory expectations in roles. Others take a somewhat broader approach (e.g. Gross et al, 1958) including expectations which are less definite. Obligatory expectations are those which are likely to have relatively strong sanctions connected to them.

In employing the expectation concept, two major and interrelated complications must be accommodated. Firstly, expectations are not concentrated at one point but are dispersed in a situation. Other actors surrounding a position will hold and/or reflect standards for behaviour, and not all expectations

will be external. Secondly, the occupant of the position under examination will also be subject to internal influences on behaviour resulting primarily from prior socialization.

Merton's formulation of "role-set" is important in relation to both diversity and conflict of expectations. Role-set is "that complement of role relationships in which persons are involved by virtue of occupying a particular social status (i.e. position)" (Merton, 1957). The basic source of differences and potential conflict among expectations held by surrounding persons is that these others are apt to hold different social positions. In other words "social differentiation generates distinct interests". Merton goes on to suggest six social mechanisms by which the differences within a role-set are resolved: relative importance of each, differences in power between them, observability of role-activities, awareness of conflicting demands, mutual support, reduction of the role-set.

2. ROLE ANALYSIS

If roles are sets of expectations for a position in a structured social situation they will need to be analysed both situationally and relationally. Situationally, the context of the positional specification can be the classroom, organization, or other setting in which the relational analysis will be done. Relationally, the network of other actors in that setting needs to be identified. As the primary situation in which the effects of staffing are being studied, the classroom provides the main boundaries for role analysis. Contained within those boundaries are the roles of teacher, additional staff person and students.

Outside the classroom, several other roles related to those in classrooms are identified. Specifying all the roles influencing the central situation would be very difficult and unduly complicated. It is important, however, to include the expectations of sources of significant influence such as administrators and parents.

An analysis of expectation, it must be acknowledged, is not easily conducted. When they are overtly explicit, there is some possibility of direct measurement of expectations. Many expectations, however, are not observable phenomena and thus must be inferred from the evidence. Often these covert expectations are the most significant. Biddle (1979) suggests three approaches to measurement of covert expectations:

i) prior experiences

ii) behavioural effects

iii) phenomenal reports

By the first approach, evidence of expectations would be sought in the prior experiences of people in the position being analysed. For example, from the prior experience of their training courses teachers are likely to have the expectation of placing primary emphasis on the role of instructing students. It is readily apparent that the link between prior experiences and current expectations may be quite tenuous. Biddle (1979) suggests this approach might only work well in the laboratory research situation.

The second approach is to attempt to infer covert expectations from observation of behaviour presumed to arise from those expectations. To take the same example as above, if

teachers are observed to put primary emphasis on the instructional role it would not seem unreasonable to infer that they believe they are expected to do so. While such general expectations may be sound inferences from behaviour, inference of other expectations may be very difficult since the related behaviour can vary by context, be distant from the expectation in time or location, etc. In the third approach called "phenomenal reports", subjects are asked to respond to direct or indirect questions about their expectations. The inference of expectations depends on the ability and willingness of respondents to report their expectations, and to do so without having their expectations affected by the process of reporting. Biddle recommends this approach over the other two because of its greater probable validity and reliability. In the remainder of the chapter, all three approaches will be employed to examine the positions of teacher, aide, and child care worker.

3. ROLES OF TEACHER, AIDE AND CHILD CARE WORKER

The role concepts introduced earlier in the chapter will now be applied to each of the three staff positions involved in the classroom study. A detailed delineation of each is not required; rather, the purpose is to identify the roles which differentiate between each of these three positions.

It will be evident that role concepts have been applied to analysis of these staff positions only to a limited extent, particularly in the cases of the newer positions--child care worker and teacher aide. Even in role analysis of the teacher position, there are significant limitations in the literature. For example, students' expectations rarely are obtained even

when those of parents and supervisors are.

I. SPECIAL CLASS TEACHER

In considering the position of teacher, quite a volume of material is available. This is not surprising, given the relatively large number of teachers. In Ontario for example, there are approximately 100,000 teachers, compared to 10,000 doctors and 15,000 lawyers. In addition to being more numerous, teachers generally are more accessible for research. Most of them are public employees, working in relatively public situations, and their "clients" have little power to refuse research in those situations.

Situationally, consideration of the teacher role(s) usually has focused on the classroom, although some research has included extra-class roles. The classroom setting is significant primarily in its comparative isolation. Generally, teachers preside there with limited supervision--and limited assistance. This is not to suggest that they are free to do as they please -- indeed, the position is quite the contrary. Particularly in North America, classroom curriculum has tended to be specified quite explicitly; teachers are told what to teach, when to do so, and frequently also how, as well.

The degree of specification is usually less in special education classes, however. Remedial instruction is considered to require more individualization, beyond a set curriculum. In addition, the emphasis of activities often differs in special classes, particularly classes for children with psychosocial disorders: for example, more time may be given to craft work and games.

Relationally, a teacher's central roles are clearly with students, most of their working day being spent in the classroom. What are these roles? Hargreaves (1975) reviews a number of different lists, noting that there is not yet any consensus on the roles that should be included. (See Table 4.1.) Other examples are included in Table 4.1 from Havighurst (1979) and Dreeban (1970).

Hargreaves suggests that only two broad roles are basic and cannot be avoided by teachers: instructor and disciplinarian. All other roles can be grouped under these two. Reviewing the above lists of roles suggest, however, that a third, broad role is identifiable, distinct from the instructor and disciplinarian roles. It might be termed the role of supporter, including activities such as counselling or parent-substitute. This additional role seems particularly applicable in the case of special class teachers.

Each of these three roles will now be examined, in turn, although it will be evident that there are aspects which overlap and are interconnected between the three.

a) Instructional Role

If no more than three broad roles are identified for the teacher position, the instructional role includes both the transfer of specific knowledge and skills, and the transmission of culture. The latter includes the attitudes and values of society, and expected behaviour in it. In industrial society, more of this socialization activity has shifted from parents to teachers. Teachers are expected to give their instructional role the highest priority. This expectation is shared, in

Table 4.1 SAMPLE LISTS OF TEACHER ROLES

From Hargreaves (1975)

Advisor		
Counsellor	Parent Substitute	
Referrer	Welfare Worker	
Disciplinarian	Organizer	Disciplinarian
Motivator	Value Bearer	Motivator
Information Giver	Instructor	Resource Person
	Classifier	Programme Director
		Learning-Aids Officer
		Measurer and Recorder
		Evaluator
		Adapter

From Havighurst (1979)

Parent Substitute

Confidante

Disciplinarian

Surrogate of middle class morality

Mediator of learning

From Dreeban (1970)

Classroom control

Changing social relationships

Motivator

Instructor

varying ways, by parents, administrators, even students. One of the variations Musgrove and Taylor (1969) documented as affecting this expectation was by social class: middle class parents emphasized the instructional role more than lower class parents (who gave more emphasis to the control role).

The instructional role has been analysed into four constituent tasks (Ontario Teacher's Federation, 1976):

1. diagnosis/assessment of learning needs
2. planning an appropriate learning programme
3. implementing the programme
4. evaluating the results.

Assessment can include a number of different elements and input from other services (psychological, psychiatric, social work, medical). The teacher needs to review school achievement and identify learning strengths as well as weaknesses.

Having identified a child's learning needs, programme planning requires matching of a response to those needs. Morse (1977) recently expressed the matching requirement for children with behaviour disorders:

> "We have to see the issues from the child's point of view and then use an appropriate technique.... The method does not predominate, the child predominates."

In practice, Morse's aspiration is likely to be tempered by practical limitations. Curriculum, teaching style, classroom arrangements, all can be adjusted to accommodate different individuals--but only to certain degrees. If, for example, a student's personal style is at odds with a teacher's in one

locality, do arrangements such as transportation permit student relocation elsewhere? Other modifications are easier to arrange. For instance, much learning can be accomplished through games or other less apparently academic activities such as drama or crafts. The possibilities depend upon a teacher's circumstances and resourcefulness.

The implementation task is the heart of the instructional role. Can the program plan be executed and learning effected? This is the real test for a teacher. How it is met will most directly influence the classroom social environment to be discussed in Chapter 5.

Teaching in classes for children with psychosocial disorders presents some different emphases from regular class instruction. Since class size is much smaller, there is not the same requirement for group presentation, such as lecturing. Instead, most work is with small groups or individual students. The more individualized instruction resulting from these arrangements is expected, as a consequence, to be specially suited to each child. To meet that expectation may require considerable versatility by a teacher.

As noted above, curriculum modifications may be substantial to suit individual program plans. Great emphasis is likely on remedial instruction, development of basic learning skills, and special skill areas such as crafts or drama. Teachers in these special classes are likely, therefore, to need ability and experience in these particular areas. Just as classes for children with psychosocial disorders require special instructional knowledge and methods, they also call for

different emphases in general teaching manner or behaviours. All teachers are expected to be fair and equal in relation to their students; also, to be emtoionally stable, patient and understanding, and prepared for unexpected developments. However, these characteristics take on greater importance with emotionally disturbed children, whose stability is likely to be fragile and therefore dependent upon stability in the social environment, and whose level of distrust of other peers and adults is likely to mean that acceptance of the teacher and progress on learning tasks will be slow, if not doubtful, initially. This inter-personal testing must be met slowly and skilfully—and repeatedly.

b) Control Role

Teachers are expected to maintain control in their classes. It is not an attractive role and can be a difficult one, particularly in a class of disturbed boys. Trow (1960) notes the prevalent concern among prospective teachers about their ability to handle the control role. In addition, some begin with an idealistic or naive hope that the issue need not necessarily arise. It concerns power and authority, when all they want to do is teach. The reality, however, is that through most of public schooling children are required by law to attend school. For some students it is truly a case of "unwillingly to school"; most students are affected by such an attitude from time to time. It is clear to the child that power and authority rest with the adults at school. A teacher must, therefore, deal in some way with this reality.

The significance of the control role is illustrated by

results of the Musgrove and Taylor (1969) survey of teachers in England. In aggregate, they reported that significant others (head teacher, colleagues, parents, pupils) were perceived by teachers to attach greater importance to discipline than they did themselves, and greater importance than they would like to attach to it.

To be effective in the control role a teacher must take into account that teaching is a social process, and that it normally takes place in a group setting. Hence, an understanding of interpersonal relations and group dynamics would be highly desirable. Ironically, student teachers receive relatively little preparation in this area. Right from the start of their careers the message is that they are expected to cope--but on their own.

The task most readily identified as being part of the control role is management of deviant behaviour. This behaviour can include (Sloane, 1972):

-- restless movement, talking or general hyperactivity
-- aggression
-- crying and tantrums
-- over-quietness, isolation
-- general disruption

Alternatives for responding to and managing these behaviours can take many different forms according to the character and ingenuity of the teacher. Only general parameters appear to be set for expectations of how to respond to deviant behaviour. For example, as was noted in the earlier discussion of the

instructional role, teachers are expected to be fair and equitable in their relationships with students. Similarly, any disciplinary action by teachers, as by judges, should be meted out to the right culprit--and consistently (i.e. similar responses to similar violations). There also would be more local standards for the forms of discipline (e.g. corporal punishment).

The full range of classroom management tasks also needs to include the organization of activities and materials. Prevention of misbehaviour is clearly more attractive than having to intervene once it occurs. The focus on instructional activities can be increased and the relationships between teacher and students can more easily be kept on a less conflictual basis (Kounin, 1970). As noted earlier, in classes for children with psychosocial disorders, order and stability are especially important. Seen in this broad way, the control role overlaps and interconnects with the instructional role. Indeed the two should blend together in practice, each enhancing the other. Expectations for control reflect established norms of our culture. In fulfilling them, teachers are reinforcing those norms. This is a further overlap with the instructional role.

c) Support Role

Thirdly, teachers are expected to provide support and encouragement to students. In some analyses of teacher roles (e.g. Hargreaves, 1975) this supportive activity is included as part of the instructional and control roles. It is separated out as a third role here to emphasize its importance. As noted

in the discussion of the control role, there has tended to be relative neglect of teaching as a social process, compared to emphasis on the content of instruction. A second reason for highlighting the support role is its central significance to this study. A major assumption in the addition of aides or child care workers to classrooms has been that the provision of support to students will be enhanced.

Support is a general term which includes a wide range of behaviours--guidance, praise, acceptance of feelings, recognition, arranging participation, encouragement, expressing concern, sharing. Essential to being supportive is empathy—to understand what would be a helpful response in particular circumstances; and, involvement--to have a relationship through which support can be provided. There is ambiguity in the written expectations for teachers regarding the appropriate degree of attention to affective as well as instrumental areas of relationship with students. The predominant direction appears to be to concentrate on the instrumental side. Wilson, however, in a widely cited article argues strongly for greater involvement by teachers.

> "The generations are pulled apart in a mobile, rapidly changing society, so that the young quickly grow apart from their families and especially in adolescence reject identification with them and their values. But the school has ongoing concerns for young people, and these are concerns for young people, and these are concerns in which affectivity has a context and a necessary function." (1962)

Again, classes for children with psychosocial disorders call upon special attention by teachers to this role. Students with low self-esteem and many experiences of failure need a lot of support, which can be difficult to provide. Considerable mistrust and defensiveness may have to be overcome.

Moreover, the control and support roles are difficult to balance. The results of Lortie's survey of teachers, reported in Schoolteacher, confirm the difficulty perceived in performing both roles at the same time. One teacher said:

> "I like to be their friend and yet to know when hilarity and fun stops. I think they know where the line goes.... You have controlled discipline all the time." ..."To the extent that teachers think their productivity is restricted by the need for such trade-offs, the psychic rewards of teaching seem intrinsically scarce." (Lortie, 1975)

d) Conclusion

In concluding the discussion of the position of teacher, two additional aspects of teaching roles should be briefly noted: these being conflicts within and between roles, and specialization of roles by differentiated staffing. Much has been written about the conflicts inherent in the combination of roles assigned to teachers. However, as Grace notes "while potentiality for conflict has been outlined for the teacher's role in various theoretical analyses, empirical evidence is not always available to confirm or deny actual conflict" (1972). The main areas of conflict, as identified by Wilson (1962), are:

1. diffuseness of the teaching role (i.e. to socialize children)

2. conflicting expectations of the role-set (i.e. parents, students, colleagues, principal or head teacher)
3. vulnerability to public pressure on schools as organizations
4. trade-off between role commitment and career advancement
5. different orientations to societal values
6. marginal role (e.g. humanities teacher in technical college)

From a survey of 150 secondary school teachers in the Midlands (England), Grace found that diffuseness was not generally perceived to be a major area of conflict. However, teachers of average or below average pupils seemed to "need to have some external source of reassurance and recognition of their efforts". This is probably applicable to teachers of disturbed children as well, since these students can be very demanding and their progress in learning slow. Of the other conflict areas, the tension between role-commitment and career advancement was particularly noteworthy. This took the form of debates about the length of time to teach at a school, frequent mobility being considered advantageous for advancement but undesirable for schools and their students. The perceived autonomy of British schoolteachers seemed to be what those surveyed thought protected them against the vulnerability of others' attitudes and values.

This awareness of autonomy is significant in relation to the concept of differentiated staffing which has gained some

acceptance, mainly in North America since the early 1960's. It has been defined generally as follows:

> "Differentiated staffing is, in essence, an organizational attempt to improve instruction through reorganization of the teaching functions within a school, so that together certificated and non-certificated personnel perform all functions traditionally assigned to the classroom teacher. This approach to organizing schools differentiates among personnel on the basis of responsibility, function, skill and, sometimes salary." (Alberta, 1976)

The premises on which the concept is based are that teachers differ in the level of teaching skills and in the extent of their commitment to the profession; and, that teaching is a global concept which contains both instructional and non-instructional functions.

The two forms of differentiated staffing most widely employed so far have been team teaching and addition of teacher aides to classrooms. Aides are discussed in the next section of this chapter. In team teaching, "two or more teachers are given responsibility, working together, for all, or a significant part of the instruction of the same group of students" (Anderson, 1964). Team teaching is not widespread, but there has been enough experimentation for it to have become an accepted alternative adopted by a minority of teachers. Its value in the context of this study of different classroom staffing models is as an example of collaborative classroom work.

II. TEACHER AIDE

The role of teacher aide is a relatively new one,

having emerged only in the 1950's, primarily in the United States. Two developments were significant in generating the role. First of all there was the rapid influx of students resulting from the post-war baby boom. Canadian school enrolment increased 68% from 1951 to 1961 (Canada, 1978). Accompanying the escalation in enrolment was strong public interest in educational matters.

Around the same time, the idea of paraprofessionals — assistants — was gaining currency. In education, the idea presented administrators with a low cost source of extra help to cope with the growth of school enrolment. It also was an opportunity to channel public interest in education. Part of that opportunity was to enable minority and lower class men and women to gain employment and possibly training towards teaching. Especially in the inner-city areas their influence might reduce the middle class domination which was making the schools so remote from their students. Use of aides has spread widely in North America, although not universally by any means. It has been estimated (Lombardo, 1980) that approximately 7.5 million aides are participating in U.S. school programs. Of these, 80% are volunteer aides, and the remainder employed as paid aides. This total, 7.5 million, compares with a total of 3 million teachers in public schools at the primary and secondary level.

Aides perform a wide variety of tasks and their roles are differentiated accordingly. In addition to teacher-aides who assist in the classroom (the group examined in this study), other categories are distinguished in general terms as clerical,

audiovisual or school aides. The California Instructional Aide Act of 1968 recognizes 26 different types of aides, including additional positions of library, school-community, after-school or laboratory aide.

The key issue in specifying the tasks performed by any aide, particularly teacher-aides working in classrooms, is the relationship to teachers' professional tasks. In most jurisdictions, for example, aides are not to perform instructional activities. Those are reserved for teachers. For example, the principles set forth by the Ontario Teachers' Federation for use of auxiliary personnel begin:

1. "They shall not perform teaching tasks such as planning, diagnosing, prescribing, instructing and evaluating.
2. They must perform their functions at all times under the supervision and direction of a member or members of the teaching staff."

(Ontario Teachers' Federation, 1976)

However, in the California Act aides are permitted to perform instructional tasks where a teacher deems it appropriate.

A related concern for teachers has been that aides would be brought in to justify increasing the size of classes. Teachers have tried to ensure that only their own numbers are counted in determining staff-pupil ratios. As one would suspect, the essence of the teacher-aide roles is to assist the teacher. Recalling the teacher's main role areas, this assistance is examined under the following headings:

Instruction related

Control

Support

Ancillary

a) Instruction Related

With the above noted concern about encroachment on professional territory, core instructional tasks are excluded from descriptions of roles for aides. The core tasks are assessment, programme planning, evaluation and implementation activities that involve presentation of academic material to students, particularly to students in a group. There are some role descriptions for aides which have somewhat fewer exclusions (e.g. the California Act) and, in practice, many aides are allowed to perform instructional tasks (e.g. Kennedy and Duthie, 1975). However, most descriptions are clear and very similar in not allowing aides to "teach".

That restriction, even when followed strictly, permits many tasks and a wide scope of instruction-related activity to aides. Table 4.2 lists some examples selected from recent reports. Most descriptions of roles for teacher aides include handling of audio-visual equipment and materials, but as a non-instructional activity. It seems, however, that audio-visual equipment and materials are as related to instruction as preparation of other materials. Thus, all activities of that nature are regarded here as part of the list of instructional activities. The examples selected for Table 4.2 are only partial excerpts from each of the five sources. They indicate the range and variation in scope of instruction-related roles assigned to the teacher-aide.

Table 4.2 EXAMPLES OF INSTRUCTION-RELATED TASKS FOR AIDES

A. Marking objective tests and exercises
Conducting selected prescribed drill exercises with individuals or small groups
Assisting individuals or small groups to follow instructions given by the teacher in the classroom
Preparing instructional materials - under the direction of the teacher
Telling or reading selected stories to groups or classes
Assisting the teacher in conducting group discussions
Helping pupils locate research and reference materials suggested by the teacher.

(Ontario, 1976)

B. Reading a story
Marking objective work
Making materials
Listening to reading
Revising flash cards with children

(Kennedy and Duthie, 1975)

C.

Helping individual child with school work	91%*
Helping small group of children with school work	82
Assisting teacher with instruction	70
Working in small groups with special materials	70
Reading to or playing games with children	67
Initiating and carrying out lessons in the classroom	55

(Gartner, 1977)

(* Percent of paraprofessionals observed performing the activity in 41 educational programs for handicapped children in 7 U.S. states)

D. Give original instruction to individuals
Supervise small group drill or discussion
Supervise individual drill or discussion
Supervise pupil projects, chores and jobs

(Lansing, 1973)

Moreover, in practice there is likely to be further variation according to the particular circumstances of almost every class.

b) Control

There is very little reference to a role for aides in discipline or classroom order and organization. It seems to be considered as part of the teacher's professional domain (and also probably of the teacher's authority), although Rittenhouse (1972) does refer to activities such as helping pupils learn how to settle arguments without fighting. In addition, Lansing (1973) found in his survey that a number of aides administer some punishment and consider it an activity to share with teachers. Again, in practice, many aides in regular classrooms participate in the control role. In special classes for children with psychosocial disorders, the control role is likely to be more significant for aides, and this certainly is the case in Ontario. In some jurisdictions, it is an aide's major role; for example, in Hamilton, the role statement includes:

> "To be aware of acceptable and unacceptable behaviour of the students, and to control these behaviours with appropriate rewards and/or consequences in respect to agreed-upon individual programs." (Hamilton, 1979)

c) Support

There is also minimal discussion of a support role for aides. It appears, however, to have an opposite significance from the above noted lack of discussion of the control role. By its nature the role of teacher aide is primarily a supportive one to students, both indirectly through assistance to the teacher and directly through activities with the children. With

the teacher focusing primarily on instructional tasks, the aide is relatively freer to adopt a more expressive than instrumental approach. This tendency is accentuated by the nature of those likely to be attracted to the role of aide. Usually aides are chosen because of their experience with children and less probably for their career qualifications. (Those with qualifications are more likely to take positions requiring those qualifications--positions likely with correspondingly higher salaries.) Particularly if an aide is spending time with individual students, opportunities to be supportive will arise frequently; for example, if a child is upset or restless, the aide can talk quietly with him while the teacher continues with class instruction.

d) Ancillary

A fourth role for aides should also be noted, since although not performed in the classroom, it can facilitate effective roles within the class. It is the ancillary role of supervising children in the school yard and at lunchtime. Usually, this role is considered to be a mundane one. Yet, it provides many opportunities to get to know the students and become familiar with the informal groupings that they cluster into. Back in the classroom, this understanding can enhance the recognition of what is happening and how best to respond to events.

e) Conclusion

It is apparent from the preceding role descriptions, particularly in the instruction-related area, that an aide's

possible activities are not precisely delimited. The resulting latitude offers much flexibility for different arrangements to be worked out in classrooms by teachers and aides. However, this "flexibility" may also be construed in some classrooms as ambiguity that leads to disagreement.

There is some evidence of role dissensus between teachers and aides, although this does not generally exist to a serious degree. Lansing (1973) used a behaviour log and a role-norm inventory to compare role perceptions of teachers and aides concerning the aide's role, with observations of the roles actually performed by aides. The results from this research were that: "Teachers were more restrictive in their expectations than were aides. The aides' behaviour was actually more restrictive than any group's expectations". Teachers' and aides' expectations showed greatest congruence for clerical, support, and instructional-management roles; and less congruence for the instructional-teaching role.

Since aides are expected to be experienced with children and to work under close supervision of teachers, only brief training courses have been considered necessary. These courses are two weeks to two months in length and focus, to varying degrees, on:

- program aims, philosophy
- roles of aides
- implications of working in schools
- child psychology
- confidentiality

At the same time, training also has developed for "those

teachers and administrators who are to be working with auxiliaries on how to use these new kinds of personnel effectively". (Robinson, 1969)

In concluding this outline of the teacher aide position, comparison with the position of teacher should be highlighted. The primary comparison is of status or level of authority, with the aide clearly being subordinate to the teacher. This hierarchical difference is evident, as well, in the division of tasks in the role areas of instruction, control and support. The teacher is the professional, the aide the paraprofessional. This is by virtue of the teacher's much greater formal training and responsibility—and salary.

III. CHILD CARE WORKER

The role of child care worker is also relatively new, though not as recent as that of teacher aide. It arose out of the child mental health movement which began to develop in the 1920's. The residential care and treatment programs pioneered by people like Bruno Bettelheim and Fritz Redl depended upon staff being actively involved in the therapeutic process Bettelheim (1950) and Redl (1952). These staff have come to be known as child care workers.

Initially the child care staff had a mixture of backgrounds and were oriented--on the job--into the particular approach of the programs in which they worked. For example, Thistletown Regional Centre for Children and Adolescents, which initiated the child care concept in Ontario, developed its own training program; later other programs followed that lead.

However, college-based training programs have gained predominance in the 1970's. In Ontario, this transition to formal training in child care was accelerated by the creation of a provincial system of community colleges late in the 1960's. By 1975, child care training programs had been discontinued in treatment centres and replaced by courses in twelve of the community colleges around the province. Active child care workers' associations, e.g. CCWAO in Ontario, have also been important in professionalization of child care. Despite the extensive development of child care training, however, there still are significant numbers of workers employed without that formal training.

In describing the child care worker roles, it is important to take into account recent evolutionary changes. Five years ago, the primary roles would be described as:

1. "Nurturing care and management of children's recurring everyday requirements;
2. Therapeutic care and extraordinary management of specific requirements of children in socially engineered living situations;
3. Leadership and management of the living group; and
4. Partnership in the implementation of the total organizational requirement" (Maier, 1972)

The emphasis was almost exclusively on children's living situations (i.e. in residence). In comparison, more recent descriptions of child care roles have added work with families (e.g. teaching child management skills, reintegrating children into family) and in the community (e.g. reintegrating child into

school) (Ontario Ministry of Colleges and Universities, 1976; Denholm, et al, 1983; Whittaker, 1979). These added roles reflect the general shift towards more family and community-based services, and away from residential services. Part of that shift is participation of child care workers in classroom programs.

While the locus and specific form of child care work is evolving, the essential expectations remain the same. Workers should be able to develop significant relationships with children. As adults, they can't just be "one of the kids". nor can they assume the role of parent. Through relationship, the child care worker should be pursuing therapeutic goals as part of a service program. In comparison with the expectations on teachers, the expectations on child care workers are much more towards affective relationships with students.

Another area of difference from the position of teacher is the greater degree of team involvement required of the child care worker. Thus, they are more accustomed to joint planning and greater visibility of their work. The roles of the child care position are outlined in the following pages under the headings of: child care, control, and support.

a) Child Care

The main role of child care workers is extremely diffuse, more diffuse than the instructional role of teachers. Not only does it include most aspects of the normal child care role of parents, but also the special demands of treatment or counselling. Meeting these demands requires a greater variety and/or intensity of activity than normal parental child care.

As any parent can confirm, a predominant feature of child care is the amount of time spent with a child. It is a highly involving experience. For child care workers these times together could be grouped according to the type of activity around which they are organized: daily routines, recreational activities, and therapy. (Management of deviant behaviour and emotional support are discussed below as separate roles to correspond to the preceding grouping of roles for teachers and aides.)

Routines include the regular daily activities of the location in which a child care worker (CCW) is working. There are more of these activities in a residential setting; for example, dressing, meals and bedtime activities. The importance of skilful handling of routines is illustrated by the following excerpt from an account of bedtime:

> "She didn't have to say very much because there were always a couple of kids who wanted a story and they would say to the other kids, "Keep quiet, I want to hear the story." And the other kids would be quiet and she would start telling the story for awhile and then trail off quietly. She would sit between two of the beds on the floor, holding the hands of the two kids who had the hardest time settling. She would tell one kid to sit on the floor quietly and she placed one kid between the two kids that were more frightened. She realized that the kids acted up at bedtime because they were frightened and scared to go to sleep."
>
> (Gilmour-Barrett and Pratt, 1977)

In school, there are likely to be fewer of these routines.

However, arrival in the morning and departure at the end of the day can be such occasions, and, certainly lunch and recess times. Although they may take little time, these activities are significant in indicating the close, personal level at which child care workers are expected to relate to the children in their care.

Recreational activities include a wide range of leisure-time pursuits such as sports, games, music, films, and crafts. Participation of staff with children in their care adds sharing to the activity and thereby builds relationship, an essential requirement for any "therapeutic" role. The recreation sub-role thus presents open-ended scope for child care work; also, corresponding challenges to various skills: adeptness in various activities, leadership in social settings, understanding in relationship building. Again, the element of shared participation is central.

The recreational sub-role takes on added importance for CCW's working in classrooms. If there is no activity in which the CCW can take the lead, instead of always the teacher, there is no means of establishing an independent status in the normal events of the class. There does remain the claim to expertise in abnormal events, such as behaviour disturbances. In scheduled classroom activities, however, the only option would be that of assistant to the teacher -- similar to the role of aide in the instructional area. Thus it is particularly important for CCW's in classrooms to develop the recreational sub-role.

In any setting, it is the therapeutic area of activity

which is the main basis for the child care workers' claim to professional recognition. The activities grouped in this area would in the first instance include observation of children's behaviour. Observation frequently is not accorded the importance it deserves, but it is essential for appropriate treatment planning. Since the workers are with children in care for much of the day, they are likely to be in the best position to assess their behaviour. (In the classroom, of course, teachers would claim predominance in observation of learning behaviour.) Other therapeutic activites performed by child care workers include individual counselling, group discussion, life skills development, and advocacy. The last activity, advocacy, primarily takes the form of co-ordinator for the child:

> "Each of these systems -- the cottage, the school, the clinic, and others -- presents the child with certain demands and opportunities designed to add its special function to the total pattern of treatment; and the child care worker is strategically placed to assist both the child and the system to do what they are supposed to do together." (Beker, 1972)

As noted earlier, child care workers are extending their therapeutic sub-role into family counselling and liaison with community agencies, particularly schools.

To put the therapeutic sub-role in perspective, it should be noted that child care workers usually are part of a service team which is likely to have higher status members (e.g. psychiatrist, psychologist) exerting greater influence on planning of the therapeutic activity. Child care workers are

more implementers of treatment plans than designers of those plans.

b) Control of Behaviour

In the description of teacher roles, it was noted that control of behaviour was expected as a prerequisite for instruction. For a child care worker, by contrast, management of deviant behaviour is more a part of the central purpose of the position. In the process of controlling behaviour they are expected to be developing in children greater degrees of self-control and alternative ways of dealing with situations.

This is particularly the case for children with psychosocial disorders, and even more so in classrooms since these children are more likely, almost by definition, to display a lot of deviant behaviour. With more limits on behaviour in classrooms than in residences, child care staff in schools can encounter more expectation to control behaviour. Indeed, it was this control role more than the care role which first brought child care workers into classrooms in Ontario. Some children's mental health facilities and psychiatric hospitals with teachers on-site arranged for child care staff to be called into classrooms to intervene in behavioural disturbances.

Where child care workers are employed full time in classrooms, there is a divergence of approach between those who are expected to take a major role in behavioural control and those expected to take a minor role. Whether a major or minor emphasis on control is accorded to a child care worker appears* to depend on a teacher's attitudes regarding maintenance of superior authority status by the teacher; and,

the expertise of child care workers in behaviour management. Unless a teacher is confident of her authority status and/or ascribes expertise in this role to child care, she is not likely to allow a major control role to a child care worker.

In addition to the expectation that child care workers are able to control behaviour, as is the case for teachers, they are expected to do so in especially constructive, therapeutic ways. Their training and orientation are intended to prepare them to be particularly effective in redirecting behaviour in positive ways. Furthermore, child care workers are expected through their other roles to prevent or at least minimize the occurrence of defiant behaviour. Routine, recreational and therapeutic activities can all be approached in ways that anticipate and avoid the behaviour problems that could otherwise arise. This emphasis on averting problems is a reminder of the interconnectedness of roles in the child care position. Routine and recreational activities can develop into therapeutic opportunities, or, alternatively,
can present behaviour management requirements. All these possibilities can be enhanced by the third child care role — emotional support.

c) Emotional Support

All three staff positions included in this study — teacher, aide and child care worker have a support role. However, there are major variations in the shape of those roles. In the case of the teacher, as noted earlier, support

*Based on observations of interviewers in this study.

receives ambivalent emphasis relative to the instructional role. The expectations of child care workers have been more definite: support is an important element of worker-child relationships. With most child care work having been in residential settings, relationships with children have tended to be much more extensive and intensive than teachers' would be. However, child care workers may encounter role conflict in the school setting: their training and occupational expectation for substantial relationship is likely to differ from the organizational expectation for more restrained involvement.

The support role can, if anything, present more difficulties for the child care worker than for the teacher. If uncertain about how to resolve the ambivalence between the affective role of support and the instrumental role of instruction, the teacher can retreat to the latter. The child care worker has a less clear-cut retreat, care being a much broader and more loosely defined role than instruction. As noted earlier, it is inherently more affective than teaching. That increases the possibilities of approaching the role wrongly. Trieschman et al, for example, describe four "errant approaches":

1. "be easy on the kids" (and they will like you more)
2. "become one of the boys"
3. "criticize other adults" (child's parents, other staff)
4. "become the child's new parent" (1969)

The problem with these approaches is that they aren't supportive of children. They may appear to make it easy temporarily for

the worker but can't be sustained, limit constructive action in other child care roles, and may be damaging (e.g. criticizing a child's parents).

4. CONCLUSION

Role concepts have been employed to analyse the characteristics and modes of operation of the three staff groups involved in the special class staffing models to be studied. Looking back over the role analysis suggests four aspects of the models which would seem to make it reasonable to anticipate that different models will make significant differences in classrooms:

1. Different roles
2. Different role approaches
3. Relative status
4. Number of staff

The different roles of teacher, aide and child care worker positions are summarized in Table 4.3. Taking the teacher's as the primary set since the location is the classroom, three roles are present in all staffing models: instruction, control and support. In the teacher-aide staffing model, addition of an aide introduces the ancillary role. In the teacher-child care worker model, the activity role of child care is brought into the classroom. The distinctive features of the activity and ancillary roles were examined in the preceding sections of the chapter.

Different role approaches also were discussed in the instruction, control and support roles. The instruction role is very different for aides as compared with teachers, consisting

Table 4.3 SUMMARY OF ROLE EXPECTATIONS

	Teacher	Aide	Child Care Worker
INSTRUCTION	assessment, program planning, implementation, evaluation	assist teacher by preparing	----
CHILD CARE	----	----	routines, recreational activities, therapy
CONTROL	precondition to instruction	variable	depends on teacher delegation
SUPPORT	ambivalent	major emphasis	most emphasis
ANCILLARY	----	supervise children at recess and lunchtime	---- (usually)

of a variety of activities to assist teachers in carrying out their primary responsibility in this role. In the control and support roles it was noted that child care workers have different expectations from teachers, these differences stemming from a generally stronger affective than instrumental orientation.

Though not explicitly addressed in the analysis of staff group roles, two additional aspects of staffing models are worthy of note. One aspect is the status or prestige of the teacher position compared with aide and child care positions. This difference can be attributed to a number of factors, particularly the classroom location, the more established identity of teaching, and (usually) higher education and pay of teachers. Finally, the fourth aspect is the number of staff in other models (T-A, T-CCW, T-T) than the single teacher classroom. This aspect enhances the other three by facilitating more variety of activity in classrooms.

In Chapter 6 the argument will be continued further towards propositions about the significance of different staffing models for special classrooms. For that purpose, Chapter 5 will first introduce the concept of social climate as a means of measuring variations between classrooms.

CHAPTER 5

SOCIAL CLIMATE IN SPECIAL CLASSROOMS

Having examined staffing models as the independent variable of the study, we turn now to consideration of a dependent variable by which the effects of different staffing models might be measured. As indicated in Chapter 1 classroom social climate is proposed as an appropriate choice for a number of reasons. Foremost among these reasons is the relevance of the climate concept to the intended effects of different staffing models. Different models are intended to provide a better experience for students, and if they do, effects on classroom climate should be apparent. According to the model introduced in Figure 1.1, a relatively direct relationship can be anticipated between staffing and climate. The basis for such a relationship will be discussed fully in Chapter 6. As background to that discussion, Chapter 5 introduces the climate concept and considers ways it can be measured.

1. THE NOTION OF SOCIAL CLIMATE

The familiar meaning of "climate" in discussion of the weather is a useful point of departure for clarification of the term's use in classroom studies. Tagiuri (1968) explains the meteorological use of the climate term:

> Climate has a Greek root that means slope or inclination...Slope here refers to the slope of the earth (from the equator toward the pole), hence a region or zone of the earth....A change of "clima" originally meant a

> change in latitude, which came to mean a change in atmospheric conditions, as well as in length of day. Eventually it acquired its present meteorological meaning....the average condition of the atmosphere (in a particular locality)".

The weather analogy is one that has been used in attempts to explain the concept of social climate. Another analogy has been that of personality. For example, Rudolf Moos, one of the most active proponents of the social climate approach, has written:

> "The social climate perspective assumes that environments, like people, have unique "personalities". Some people are more supportive than others. Likewise, some social environments are more supportive than others. Some people feel a strong need to control others. Similarly, social environments can be extremely rigid, autocratic, and controlling. Order, clarity, and structure are important to many people. Correspondingly, many social environments strongly emphasize order, clarity, and organization. People make detailed plans regulating and directing their behaviour. Likewise, environments have overall programs that regulate and direct the behaviour of the people within them."
>
> (Moos, 1976)

The weather and personality analogies provide a common sense starting point for the social climate concept: it refers to the prevailing features characteristic of a <u>social</u> situation. In the weather analogy, the characteristic features

are elements like temperature, wind speed or precipitation. The particular purposes of climatic classification will, however, influence the features used and the form they take. For example, schemes relating climatic limits to plant growth or vegetation groups rely on two basic criteria -- the degree of aridity and of warmth (Barry and Chorley, 1982). Here, aridity is not just the amount of precipitation, but precipitation minus evaporation computed as the ratio of rainfall/temperature. The choice of characteristics in the personality analogy is even greater than in the weather analogy. Any of the numerous reviews of personality theories published recently illustrates this range of choice.

As with personality or climate characteristics, the identification of social features is problematic. There are many features and they can be interpreted many different ways. For example, Sherif (1966) describes the feature of a social situation as four groups of factors:

1. "The set of factors pertaining to <u>individuals who participate</u> in the social situation. These include:
   a. The characteristics of the individuals, such as the number of persons, their ages, their sex, their educational, occupational, economic, and social attainments.
   b. The composition of the total participants in the social situation in terms of their similarities and differences in age, sex, homogeneity and heterogeneity as to religion, class, and so on.

c. Relations among the participating individuals. Are they strangers, friends, rivals, and in what combinations?"

2. The set of factors pertaining to the task, problem, or activity at hand. Man's activities are, after all, of some importance to the study of his behaviour. Is his task new or familiar, simple or complex, habitual or calling for creative efforts? Is it structured or unstructured in some degree in the structured-unstructued gradation?
3. The set of factors pertaining to the setting and the circumstances surrounding it. These include the place,the material culture of that place, the objects and tools available, the facilities, the presence or absence of other people not involved in the task or problem at hand, and notably they must include the cultural and value orientations of the setting.
4. The set of factors pertaining to each individual participant's particular relation to the above three sets of factors. These include, among other things, his proficiency in the task or problem at hand, the degree of his enduring involvement in the problem, his attitudes toward other participants, his feelings of ease or discomfort in the situation, and so on."

With such a broad and diverse range of features, it is not surprising that several approaches to conceptualization and

measurement of social climate have been developed. The review of approaches in the next section of the chapter categorizes the approaches generally as "respondent survey" and "objective/ observational". As with the concept of stress (see Cox, 1978), the two categories of approaches to social climate differ in their formulations of the climate concept as well as in their methods of data collection. Unfortunately, neither category of approach has given as much attention to conceptualization as to operationalization of measures for social climate.

Related Terms

The operational emphasis reflects the positivist orientation of climate research. That is, climate has been regarded as an entity that can be measured in a way analogous to the manner in which measurements are obtained in natural sciences. In respondent survey approaches, perceptions of participants in a climate could be the basis for deciding what features are salient to measure. However, climate studies have seldom delved into the meanings that participants attach to the climate they experience, as would be the case in a phenomenologically oriented study. A few school studies have ventured partially in that direction (e.g. Jackson's Life in Classrooms [1968], or Martin's The Negotiated Order of the School [1976]) as, more substantially, has Goffman (e.g. Asylums [1961]). The orientation has not yet, however, been applied directly to exploration of the social climate concept.

Also lacking in analysis of the climate concept is an historical or dialectical orientation as might be recommended,

for example, from a Marxist perspective "insisting on the reckoning of an idea in full relation to the whole movement of world development". (Edel, 1979) The absence of analysis from this orientation as well as from the phenomenological orientation leaves the climate concept at a nascent stage of development.

Before moving to a review of approaches, the relationship of social climate to similar environmental terms should be noted -- terms such as culture, ecology, milieu and environment, itself. Tagiuri (1968) suggests that many of the environmental terms are close to each other or overlapping in meaning but he offers the following differences in focal emphasis:

> "...we propose that environment be the most general term, used to refer to the abstract notion of what is outside the person."
>
> ..."Ecology...would refer to the physical and material aspects of the more generic term environment. "Milieu, social system, and culture each would help distinguish three major social aspects of the more general environmental concepts. Milieu would refer to persons and groups; social system to patterned relationships of persons and groups; culture to such aspects of the social environment as belief systems, values, general cognitive structures..."
>
> "A particular configuration of enduring characteristics of the ecology, milieu, social system, and culture would constitute a climate, much as a particular configuration of personal characteristics constitute a personality."

In other words, climate is a broadly inclusive concept encompassing various aspects of a situation which in combination yield an overall profile. Prefixing the adjective "social" would, in Tagiuri's terms, diminish the ecology aspect and highlight milieu, social system and culture similar to Sherif's range of factors discussed above. Considering the similarity of meanings of several environmental terms, it is clear that any particular use of "social climate" will need to be specified explicitly. The recognition of multiple climates in a setting (e.g. Schneider, 1975) increases the need to clarify the meanings attached to them.

2. RESPONDENT SURVEY APPROACHES

Under the rubric of respondent survey approaches can be placed all social climate research based on participants in a setting providing data by questionnaire. This category includes studies using a number of different terms to refer to social climate: organizational climate, behaviour setting, classroom environment, atmosphere, and psychological climate. In addition to employing similar data gathering methods, these various research activities are based on similar notions of social climate.

The similar notion distinguishing respondent survey approaches from the objective/observational, is the conception of climate as participants' perceptions of social situations. That is, social climate is the configuration of people, relationships, and activities in a social setting seen through the eyes of the people in that setting. To balance any individual variations in each participant's views, the

perceptions are aggregated to a group level. Schneider (1975) suggests that this conception of social climate is based on two basic assumptions:

1. humans attempt to apprehend order in their environment and to create order through thought,
2. humans apprehend and/or attempt to create order in their environment so they can effectively adapt their behaviour to the work environment."

Schneider goes on to discuss the first assumption as from the Gestalt school of psychology and the second from the school of Functionalism.

a) Gestalt and Functional Influences

Fundamental to the Gestalt perspective is the proposition that perceptions of whole situations are more than the sum of perceptions of parts of the situation. These holistic perceptions result from people attempting to find order in their world. In social psychology, Kurt Lewin has been a particularly influential proponent of the Gestalt perspective. His field theory approach lies behind the respondent survey approach to social climate. The most fundamental construct of the situation was what Lewin called the psychological field or "life space". "All psychological events are conceived to be a function of the life space, which consists of the person and the environment viewed as one constellation of interdependent factors." (Lippitt, 1968). The factors are viewed dynamically either as needs which cause tension or as aspects of the environment which serve to increase or release this tension (Marrow, 1969).

> "But as he (Lewin) added such new problems (to his research) as group goals, group decision making, and group problem solving, it became necessary to relate life spaces to one another, that is, to construct a social space or a social field in which social, economic, political, and physical factors have objective, or at least intersubjective, reality, rather than only individual psychological reality." (Lippitt, 1968)

Not long after Lewin's Principles of Topological Psychology was published came Murray's Explorations in Personality (1938). It was primarily a clinical study of 50 college-age men by the Harvard Psychological Clinic. However, partway through the study, a concept of environmental press emerged from their work. Although discussed in only a few of the book's 761 pages, "press" has been an influential concept in social environment research. Murray makes several references to Lewin, but it is unclear how much connection they indicate.

In the glossary of the 1938 study, "press" was defined as: the "kind of effect an object or situation is exerting or could exert upon a person." There could be many press (plural) in a situation. The focus is clearly on the effect of an object, rather than a person's reaction. By "effect" the discussion carefully describes a dynamic idea of active impact (i.e. harm, nourish, excite, quiet). Yet, there was a subjective interpretation attached to press. The definition went on to add: "It (press) is a temporal gestalt of stimuli wich usually appears in the guise of a threat of harm or promise of benefit to the organism." Press are either positive or

negative in this conception. This requires a judgement by those providing the information on press. Murray's formulation anticipates two sources of information, either the subject or a detached observer — yielding beta and alpha press, respectively.

Murray's concept of press has been a major influence in climate research. This influence — and also Lewin's — on classroom climate has evolved through several different channels, but there remains considerable similarity of approach. Those sharing the respondent survey perspective (e.g. Stern, Anderson and Walberg, Moos discussed below) have utilized Murray's notion of the individual subject's beta press in the form of mutually shared consensual beta press among subjects. In contrast, the objective/observational approach (described below) has focused on the alternative source of information about press identified by Murray; that is, the alpha press of the detached observer.

Closely related to this general Gestalt influence is the functionalist aspect which also is noted by Schneider (1975):

> "While Gestalt psychologists hypothesized that people apprehend and create order because they have no choice Functionalists proposed that order is apprehended and created so people can function adaptively in their world."

The functional orientation is indicated by the content of social climate data which usually focuses on practial, behaviour-related features of situations. For example, a review of major studies under the topic of organizational climate

(Campbell, 1970) concluded that the common factors into which the measured aspects of climate could be grouped were:

1. Individual autonomy — degree of decision-making an individual can exercise
2. Degree of structure — methods and objectives specified for tasks
3. Warmth and Support — feelings of general good fellowship and helpfulness
4. Reward Orientation

In addition to these four, Campbell suggests that possibly a fifth factor could be added that would refer to interpersonal relationships between peers, particularly conflict aspects. All five factor areas are highly relevant to the adaptation of participants to their situation.

b) Traits of Social Climate

Respondent survey approaches to social climate have in most cases conceptualized it in a manner similar to trait theories of personality. That is, by some means a set of features is identified (e.g. Campbell above) as being the dimensions or characteristics that comprise social climate. Various means can be (and have been) employed to arrive at sets of climate features.

One way to compare the various methods is according to the degree of systematic empirical procedure employed to establish the content of survey items. At one extreme, the set of items (i.e. dimensions, types, characteristics) could be derived on a priori basis from theoretical presuppositions. Close to the opposite extreme would be the utilization of factor

analytic or clustering procedures to organize large numbers of possible items, although the sophistication and apparent precision of the procedures tends to mask the degree of judgement and assumption involved. To begin with, there is the problem of selecting, or at least gathering, a pool of items on which to collect data for factor analyses. Then, there are a host of considerations related to the sources and methods of collection of responses. Finally, the methods of analysis adopted can make major differences. For example, the theories of Cattell and Eysenck, which are both trait approaches to personality theory, are notably different, in part because of theoretical differences in the methods of factor analysis used by them (Peck and Whitlow, 1975). Thus, all approaches to development of sets of social climate features will fall somewhere between the theoretical and empirical extremes with no two likely to be exactly the same. Each, therefore, would need to be assessed for reliability and validity by the various procedures available (see Nunnally, 1978 for an overview of procedures).

c) Commentary on Respondent Survey Approach

As noted earlier, conceiving of social environment as aggregate perceptions and obtaining data by surveying participants has been the predominant approach to research on social environments. However, there are aspects of the approach which have been criticized and which distinguish it from the other broad approach of conceptualizing social environment as objective characteristics of the organizational setting. Before examining this second approach, criticisms of the perception

survey approach will be discussed.

The primary criticism arises from the respondent-based nature of the survey approach. With that subjective data base, the meaning of survey results becomes problematic. The critics see an inherent ambiguity: do the data tell you more about an organization or more about the responding individuals? Guin (1973) most pointedly raised the issue in an oft-quoted brief article. Guion suggests that two interrelated aspects of the social environment concept can cause problems in surveys of participants' perceptions. The first aspect to be concerned about is the mixing of evaluative and descriptive information. As noted earlier, the aim of research in this area is to obtain descriptions of the social environment, not to find out whether people like the environment. But the affective and cognitive aspects can be difficult to separate.

For example, there has been considerable discussion and exploration of the relationship between job satisfaction and organizational climate. Johannesson (1973) noted the similarity of items used in some instruments measuring climate to items from satisfaction scales. Schneider and Snyder (1975) found that a group of students was unable to distinguish climate items mixed with satisfaction items. It is apparent that the two concepts are closely related (and thus hard to distinguish empirically, as well).

Nevertheless, Schneider and Snyder (1975) also established in a sample of 50 life insurance agencies that:

1. "climate and satisfaction measures are correlated for people in some positions in the agencies but

not for others;

2. people agree more on the climate of their agency than they do on their satisfaction".

These findings reinforce the proposition that social environment as participant perceptions is a conception that can be distinguished from a related notion of satisfaction.

A second aspect of the social environment concept which Guion suggested was a difficulty for the perception survey approach is the possibly wide variation in perceptions. That is, respondents may have highly idiosyncratic views of their environment. They are, after all, perceptions at a relatively high level of abstraction. Having advanced the concern, however, Guion seems to suggest that the problem can be reduced from a conceptual to an empirical question. The problem is resolved at the conceptual level, he suggests, by emphasizing the environmental level of analysis. In other words, aggregate the perceptions and retain only those about which there is sufficient consensus. To facilitate consensus Guion recommends forced choice (e.g. yes/no) format for perception surveys.

That perception surveys should be designed for descriptive data — and should be analysed on an aggregate basis — are now firmly established aspects of the social environment concept. Yet, neither is a routine matter. The development of descriptive rather than evaluative survey items continues to be an operational challenge. The aggregation issue has evolved into a subtler complication: What are the appropriate boundaries for aggregation? The boundary question is illustrated by Johnston's (1976) field study of a social

research consulting organization. It was selected for study because it had grown in the preceding three years from 12 to 180 employees. Johnston wanted to test the proposition that:

> "employees who had joined an organization during its formative years appeared to establish and maintain a relationship that was more positive than that of employees who joined the organization in later stages."

He found this to be the case in the organization studied. In the process, Johnston observed the sharply divergent perceptions of social environment expressed by first and second generation employees. Similarly, Moos has found consistently that there are basic differences in perceptions of environment between staff and patients (or clients or students):

> "role differences are related to the perceptions of the environment. People who have more authority and responsibility in a setting tend to see the setting more positively." (1979)

These findings support one of the four criteria for aggregation boundaries suggested by Jones and James (1979): "homogeneous situational characteristics (e.g. similarity of context, structure, job type, etc.)". The other three criteria are based on the patterns of the respondents' perceptions:

1. "significant differences in aggregated or mean perceptions across different organizations or sub-units;
2. interperceiver reliability or agreement;
3. (noted above)
4. meaningful relationships between the aggregated

score and various organizational, sub-unit, or individual criteria."

3. OBJECTIVE/OBSERVATIONAL APPROACH

The essential feature of this approach is the use of observational or documentary sources of data for measures of social climate. The observational approach has been used extensively in educational settings. The documentary data approach has been used more in studies of organizational climate in office or industrial work settings, but the observational approach also has been used in these settings.

In the area of classroom observational research, Ned Flanders has earned a predominant position. His Interaction Analysis System has been refined into one of the most elaborate and widely used. What it consists of primarily is categories of verbal interaction between teachers and students. During observation periods (usually 10 minutes at a time), the interaction observed every 3 seconds is recorded in a matrix which portrays the chronological sequence diagonally across the matrix.

The focus is mainly on the teacher's actions, distinguishing between different forms of direct and indirect influence:

"Direct influence consists of stating the teacher's own opinion or ideas, directing the pupil's action, criticizing his behaviour, or justifying the teacher's authority or use of that authority."

"Indirect influence consists of soliciting the opinions or ideas of the pupils, applying or enlarging on those opinions

or ideas, praising or encouraging the participation of pupils, or clarifying and accepting their feelings." (Amidon and Hough, 1967)

The basic dichotomy of direct-indirect influences resembles other observational schemes developed earlier. For example, Withall's Climate Index (1949) employed a continuum from teacher-centred to learner-centred.

The emphasis on teacher behaviour raises a fundamental point concerning measures of climate and measures of other variables from which climate can be inferred. Is teacher behaviour part of climate or a cause of climate? A further drawback to Flanders' categories for this research study is that they are both too broad and too limited. They are too limited in that the nature of teacher behaviour as Direct/ Indirect is not all-encompassing of classroom climate. For example, the nature of behaviour between students is not included. At the same time, the categories are too broad in that there are significant subcategories which are not recognized separately. Teachers, for example, may approach their instructional role somewhat differently from the way in which they approach their control role.

a) Behaviour Settings

Another observational approach utilizes a concept of "behaviour setting" (Barker, 1968). A behaviour setting is one or more "standing patterns of behaviour", that is, "a discrete behaviour entity with...a precise and delimited position in time and space." Examples given by Barker include a basketball game, a worship service, or a piano lesson. In other words, the focus

is on the characteristics of a social situation which persist even though the participants change, rather than on the unique characteristics introduced by particular participants. The primary justification for this structural focus were the findings of Barker and his colleagues that "behaviour of the same children differed markedly from setting to setting, but also that different children in the same setting displayed high behavioural similarity". (Moos, 1974)

A good example of use of the behaviour setting concept in research is the study reported in Big School, Small School (Barker and Gump, 1964). To study the effects of size of school, 13 Kansas high schools ranging in size from 35 to 2300 students were selected for a detailed observational analysis to identify all the behaviour setting units operating in the schools. When the extent of student participation in these behaviour settings was surveyed, the study indicated that the number of behaviour settings was as much as 8 times higher in the larger schools. However, in smaller schools students tended to participate in twice as many settings, and there was a much smaller proportion (2% vs. 29%) who did not participate in any settings.

b) Objective Approach

The simplest approach to measurement of social climate has been to use data recorded for administrative purposes. Measures of this type have included degree of absenteeism, staff turnover, productivity, lateness, frequency of accidents and number of grievances. These measures have been used primarily to test relationships with properties of organizational

structure such as size of work group, hierarchical shape, extent of automation (Moos, 1976). In an early review (Porter and Lawler, 1965), some relationships were found to be supported; for example, that absenteeism and turnover rates were positively related to organizational size. Porter and Lawler report other results which are not clearcut and caution that the complexity of interrelationships between organizational variables will require correspondingly complex research methods. A decade later, Payne and Pugh (1976) note that the caution is confirmed.

The clear advantage of the objective data approach to social climate is the ease of application. Usually the information can be simply located in administrative records, and it is much more explicit what information one has obtained. (In comparison, there can be difficulty of interpretation and uncertainty about accuracy of more subjective data collected directly from respondents.)

A major disadvantage, however, is the relatively limited nature of the information that can be collected with this approach. Turnover rate, for example, is a basic measure that conveys little indication of the situation that yields the rate. Measuring social climate this way also raises a serious definitional issue: what distinctness does the concept of social climate have if it encompasses both the impact of various input or intervening elements and those elements themselves. Turnover rate, for example, does appear to be an impact rather than an input variable. In comparison, repetitive, boring work (which might influence absenteeism) is a characteristic referring more to the social climate of the work setting.

4. CHOICE OF RESPONDENT SURVEY APPROACH

Both the objective/observational and respondent survey approaches to social climate have been shown to have disadvantages as well as advantages. Objective approaches offer "low inference" data about climates by measuring directly observable, specific, explicit phenomena. The scope of inquiry is likely to be relatively limited, however. Observational methods offer opportunities for insight stimulation as well as for detailed data collection, and there are a number of well developed systems available (Simon and Boyer, 1967-1970). On the other hand, observational methods are relatively elaborate and time-consuming.

In comparison, respondent survey approaches present intermediate opportunities and requirements of information gathering. They are likely to be more elaborate than collecting data from records, but do not require the involved process of observational studies. Self-report questionnaires are thus relatively economical, and because they are also easily standardized, replication of studies is more likely. At the same time, as noted earlier, data from respondent surveys entail added interpretive difficulty because of their greater subjectivity. The "high inference" nature of this information is both its main attraction, and primary drawback.

For the purposes of studying the relationship between staffing models and social climate, the respondent survey approach seems to offer the best balance of features. Information can be obtained from the student perspective. It can be collected easily enough to permit inclusion of sufficient

classrooms for statistical analyses. At the same time, however, there is the problem of varying perceptions among respondents which, as discussed earlier in the chapter, are averaged together by aggregating the individual perceptions. The assumption needing to be tested in any study is that there are no systematic variations in social climate perceptions (e.g. all males have similar perceptions different from perceptions held in common by all females) that will interfere with the main analysis being conducted.

Deciding that a respondent survey approach would be preferable for the study leads to the question of whether an existing method could be used or a new one would need to be developed. The advantage favouring a new approach is specific suitability to the investigation being planned. Considering the disadvantage of high development costs, however, a new method seems justified only if no existing approach is applicable or cannot be easily modified to be applicable. Accordingly, available respondent survey approaches were reviewed and from the many available (Nielsen and Kirk, 1974), three potentially appropriate ones singled out for closer scrutiny:

— High School Characteristics Index (Stern)

— Learning Environment Inventory (Anderson and Walberg)

— Classroom Environment Scale (Moos)

a) High School Characteristics Index

Murray's needs-press formulation described earlier in the chapter was applied most directly in classroom climate studies by George Stern. In collaboration with several others,

he developed detailed survey measures of both needs and press in parallel form. Both questionnaires consist of 30 scales of 10 items each. The scales are based on Murray's categories of need with the items worded to correspond as much as possible on both needs and press questionnaires:

> "The Order variable will serve to illustrate the structure of the instruments. Order may be defined briefly as a prevailing trend towards the compulsive organization of the immediate physical environment, manifested in a preoccupation with neatness, orderliness, arrangement, and meticulous attention to detail. The magnitude of this variable as a personality need is inferred from the number of preferences a person indicates among such items in the Activites Index as "washing and polishing things like a car, silverware, or furniture", "keeping an accurate record of the money I spend", and "arranging my clothes neatly before going to bed". The magnitude of the same variable as a relevant press in a college environment is inferred from the number of respondents from the same institution who agree with such statements in the College Characteristics Index as "in many classes students have an assigned seat", "attendance is usually taken in each class", and "student papers and reports must be neat". (Stern, 1970)

The College Characteristics Index was the first environmental questionnaire which Stern developed (with Pace, in 1957). It was followed by the more general Organizational Climate Index (OCI). As a result, Stern is one of the few to have done research in both classroom and organizational climate

settings, by taking a general approach to social environment.

Stern's work is notable particularly for its thoroughness and sophistication. People in Context (Stern, 1970) provides full specification of the methodology employed and results obtained. The parallel scheme of measures for both needs and press permits analysis of the relationship between an individual's need and press responses. Factor analysis of the 30 scales on Stern's questionnaires yielded seven factors as shown in Table 5.1. Stern's approach is quite elaborate (300 items in the survey instrument) and appears to be better suited to an older high school, or a college or adult population.

b) Classroom Survey - Walberg

Walberg and Anderson's studies of classroom climate began in 1966 as part of an evaluation of a new high school physics course introduced nationally in the United States. The course was designed to have "a historical, humanistic character designed to appeal to all students, not just those with mathematical abilities and physical science interests" (Walberg and Anderson, 1968). Climate was regarded as an intermediate variable, between the independent effects of personality and organization, and behaviour outcomes.

Beginning with a questionnaire of small group characteristics (Hemphill and Westie, 1950), Walberg developed the Classroom Climate Questionnaire. It consisted of 80 statements on which students expressed agreement or disagreement on a five-point scale. Eighteen dimensions were determined by factor analysis of the responses using .30 as a cutoff point for factor loadings. Subsequently, the CCQ was revised into the

Table 5.1 FACTORS OF STERNS' NEEDS-PRESS QUESTIONNAIRE

FACTOR	EXAMPLES OF SCALES INCLUDED
Intellectual Climate	(reflectiveness, understanding)
Achievement Standards	(energy/passivity, achievement)
Group Life	(nurturance, affiliation)
Personal Dignity	(abasement-assurance, dominance-tolerance)
Constraint	(deliberation-impulsivity, prudishness-sexuality)
Orderliness	(order-disorder, narcissism)
Practicalness	(practicalness-impracticalness)

Table 5.2 DIMENSIONS OF LEARNING ENVIRONMENT IENVENTORY

Cohesiveness	Competition
Friction	Goal Direction
Cliqueness	Diversity
Apathy	Democratic
Favoritism	Disorganization
Satisfaction	Formality
Difficulty	Environment
Speed	

Learning Environment Inventory (LEI). Consisting of 105 items and four-point response scales, the revised LEI is scored on 15 dimensions of 7 items each (see Table 5.2).

Walberg and Anderson had a fairly large sample for their studies using the Classroom Climate Questionnaire (25% of 2000 students in 72 classes). Subsequently, the Learning Environment Inventory also was administered to relatively large samples of students. However, only very limited use of the instruments by other researchers could be located in the literature.

c) Social Environment - Moos

Rudolf Moos' work is in a similar vein to Stern's, and draws directly on it. However, he begins from a more operational, therapeutic point of view. His first work on "social atmosphere" was in hospital psychiatric wards. Moos agreed with the growing view in the 1960's that treatment environment had significant impact on outcome. Yet, there were few available measures of ward atmosphere, particularly from a patient's perspective. The Ward Atmosphere Scale (WAS) was developed to fill the gap. It is based on Murray's concept of press and Stern's approach to questionnaire development.

Moos has since proceeded with various collaborators to develop similar atmosphere perception questionnaires in other areas:

— Community Oriented Programs Scale (COPES)

— Correctional Institutions Environment Scale (CIES)

— University Residence Environment Scale (URES)

-- Group Environment Scale (GES)

-- Work Environment Scale (WES)

-- Family Environment Scale (FES)

-- Classroom Environment Scale (CES)

The same basic approach was taken to the development of each questionnaire, as is illustrated by the case of the Classroom Environment Scale (CES). Beginning with the basic social system perspective, salient characteristics (dimensions) of classroom social climate were identified by reviewing previous research, interviewing students and staff, and observing a range of classrooms. "Once a conceptual dimension was selected and defined, test items were written that were presumably indicants of that particular dimension" (Trickett and Moos, 1973). The resulting initial version of the CES consisted of 242 items representing 13 conceptual dimensions.

The CES was then tested on 504 students in 26 classrooms, along with the Marlowe-Crowne Social Desirability Scale, so that "CES items that were particularly sensitive to social desirability could be eliminated" (1973). That process along with additional revisions yielded a 208 item CES which was tested on 38 classrooms. Analysis of the results from 22 of the classes and criteria (such as "each item should discriminate significantly between classrooms") resulted in the nine-dimension CES with 10 items per dimension. The dimensions are:

1. Involvement
2. Affiliation
3. Teacher Support

4. Task Orientation
5. Competition
6. Order and Organization
7. Rule Clarity
8. Teacher Control
9. Innovation

All of Moos' scales have similar categories, or dimensions of items. In general, Moos concludes in his latest book (1979) that there are three domains of social climate dimensions: relationship, personal growth, and system maintenance/change. However, the specific grouping of dimensions in each domain varies between questionnaires. The relationship domain includes both a general sense of involvement in settings and a feeling of supportiveness. Involvement refers to the extent of attentive interest students have in class. The two supportive dimensions cover interpersonal relationships with other students and with teachers. The Affiliation dimension measures the extent to which students know each other easily, and enjoy working together. Teacher Support is the amount of help, concern and friendship teachers direct toward students in their class. (Keep in mind that on all dimensions what is being elicited are the respondent's [either student or teacher] perceptions of that topic.)

The personal growth dimensions of Moos' scales measure "the basic goals of the setting; that is, the areas in which personal development and self-enhancement tend to occur" (Moos, 1979). These vary significantly between the scales for different kinds of settings. The CES includes two dimensions —

Task Orientation and Competition. Task Orientation includes the degree of emphasis on completing planned activities and accomplishing academic objectives. Competition is the extent to which students vie with each other for marks and recognition.

The third domain of social climate is referred to as system maintenance or change. Dimensions included here are Order and Organization, Clarity of Expectations, Control, and Innovation. They consist of the following topics:

1. Order and Organization - emphasis on students behaving in an orderly manner and on the overall organization of classroom activities.
2. Rule Clarity - emphasis on establishing and following a clear set of rules, and on students knowing what the consequences will be if they do not follow them.
3. Teacher Control - how strict the teacher is in enforcing the rules, and the severity of the punishment for rule infractions.
4. Innovation - the amount of unusual and varying activities planned by the teacher.

Moos' grouping of the social climate dimensions into three domains is reminiscent of Talcott Parsons' pattern variables of social systems. There are no references to Parsons in Moos' writings, but the arrangements of variables are strikingly similar, as shown in Table 5.3.

Parsons argued that the four pattern variables were functional problems that any social system had to address. The

Table 5.3 COMPARISON OF PARSONS' PATTERN VARIABLES AND MOOS' DIMENSION GROUPS

Moos	Parsons
Relationship	Integration
Personal Growth	Goal Attainment Adaptation
System Maintenance and Change	Pattern Maintenance Latency Adaptation

goal-attainment problem is one of keeping the system moving steadily toward its goals by means of the adaptive process of "properly perceiving and rationally manipulating the object world for the attainment of ends" (Morse, 1961). These "instrumental" activities are balanced by the "expressive" problem areas of integration and latency. The integrative problem is that of keeping the system together despite the emotional strains involved in the processes of goal attainment. This system maintenance function is facilitated by the restorative, re-creational activities of the latency component.

Morse summarizes Parsons' conception as follows:

> "The functional imperatives are a device for moving between individual psychology and social behaviour. Man is viewed as purposive — hence goal-seeking; he is regarded as rational -- hence problem-solving; adaptive with respect to the environment, and integrative with respect to his social (and emotional) relationships to other of his kind; and he is regarded as an individual with private, yet socially conditioned, needs — hence needing release from the strains of coordinated (competitive, collaborative, or coerced) behaviour, while ever mindful that even his private life "belongs" to society in a sense, and must be led in accordance with certain rules. These crucial facts about the human animal, says Parsons in effect, explain that "shape" (or pattern) of culture — the accumulated distillation of human experience; they also explain much about the shapes of personality systems and social systems, for these are formed by the processes that transmit culture

> from generation to generation, molding the need dispositions of individuals and the structure of role responsibilities of society." (1961)

The theoretical formulation behind the pattern variables offers Moos' domains a basis of justification lacking in Moos' own writing.

Moos' approach is attractive because of its formulation in terms which permit application in a number of different settings. If sufficient applicability to each type of setting can be retained, the more general approach offers greater possibilities of comparative analyses. The various instruments developed by Moos and his colleagues are being used increasingly widely and appear to be found applicable in the various settings.

There is cause for uncertainty, however, about using any of the instruments such as the Classroom Environment Scale. Though careful preparation is reported for each questionnaire, the processes of development are not as substantial as they might have been. For example, little use appears to have been made of analytical procedures like factor analysis, clustering or multidimensional scaling. There is a brief reference in Moos' first book on his social ecological approach (1974) that factor analyses on one patient and one staff sample of the WAS (Ward Atmosphere Scale) yielded factor subscales "not very different from the rationally derived subscales". But no data are reported and there are no further references until more recent analyses by other researchers employing Moos' questionnaires. (See Chapter 8 for further discussion of this

topic.)

A second caution arises specifically from the context of a study in special classes for children with psychosocial disorders. Not only may the response capabilities of the children be less than normal (e.g. some can't read very well), but also it is a somewhat younger age group than the CES usually has been tested upon.

d) Selecting the Classroom Environment Scale (CES)

Reviewing the approaches of Stern, Walberg and Moos led to selection of Moos' Classroom Environment Scale (CES). Not only is it part of a broader social ecology approach, but one that is becoming fairly well developed by increasing use in various studies. As well, there is a short form of the CES which is more appropriate for special class students (who are likely to have shorter attention spans).

The CES was not designed, and has not previously been used, for studies of special classes. It appears, however, that only a few modifications would be required to make it sufficiently applicable. (See Chapter 7 for detailed discussion of CES modifications.)

CHAPTER 6

RELATIONSHIPS BETWEEN STAFFING MODELS AND CLASSROOM CLIMATE

Having examined in some detail the concepts of staffing model and classroom climate, relationships between the two can now be considered. A model of the expected relationships will be introduced, and patterns of relationship formulated on the basis of expected processes of interaction between the variables.

1. FORMULATION OF STAFFING-CLIMATE RELATIONSHIPS

In Chapter 1, Figure 1.1 introduced a general framework for the study. A more specific model of the relationships to be analysed is introduced in Figure 6.1. It proposes that the "causal" variable, staffing model is systematically related to the "intervening" climate variables as a result of variation in four role characteristics of different staffing models:

a) number of staff

b) different roles

c) different role approaches

d) relative status

The four varying role characteristics affect climate through the behaviours of classroom staff. Each characteristic is analysed in the next few pages for its relevance to relationships between staffing models and climate dimensions.

To analyse the impact of different staffing models through the four varying role characteristics, we now must look

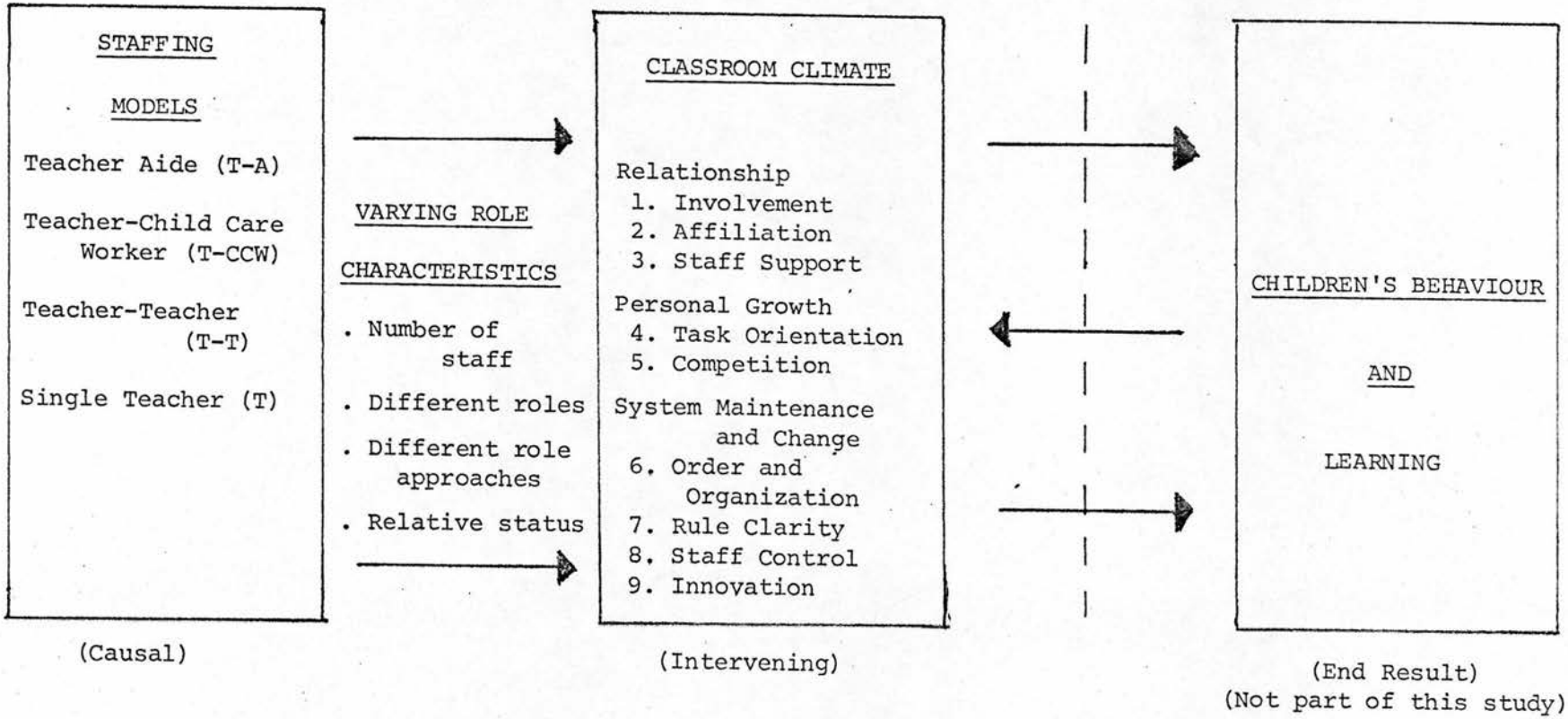


Figure 6.1 MODEL OF RELATIONSHIP BETWEEN STAFFING MODELS AND CLASSROOM CLIMATE

more closely at Moos' framework of social climate dimensions. As outlined in Chapter 5, the nine dimensions are grouped into three sets as shown in Figure 6.1. In the next few pages, the patterns of relationship expected between the aspects of staffing models and the climate dimensions will be analysed. The final step in the model of Figure 6.1 is the relationship between climate dimensions and children's behaviour. Evidence is gradually accumulating in support of the conclusion that both behavioural conduct and learning are related to classroom climate (Brookover [1982], Dunkin and Biddle [1974], Moos [1979], Rosenshine [1978] and Walberg [1979]). The line between climate (the intervening variable) and children's behaviour (the end result variable) serves to indicate that this study concentrates on the causal/intervening components of the model and does not include the end result component.

Each of the four role characteristics which differ among staffing models will now be examined for implications they can be expected to yield in relation to classroom climate. In formulating expected effects of staffing models on the various dimensions of classroom climate, the limited and scattered literature forces a highly speculative presentation. Accordingly, the study has necessarily had to be primarily exploratory. Nevertheless, some attempt is made in the next few pages to reduce some issues to specific statistical test. For purposes of explication, the possible effect of each of the four aspects of staffing models will be explored separately — number of staff, different roles, different role approaches, and relative status. However, the four are closely interrelated and

the primary analysis will focus on the combined effects (see Table 6.4).

a) Number of Staff

The number of staff in a classroom clearly distinguishes the single teacher staffing model from the other three models. Teacher-aide, teacher-child care worker, and teacher-teacher classes all have at least two staff per classroom. The additional staff in these classrooms do not necessarily mean lower staff/student ratios, however. If more students also are added, the ratio actually may be raised (as proved to be the case, in part, in this study (see Table C.14). The expected effect is thus not due to a greater concentration of staff relative to students. Rather, it is likely to result from the greater range of staff activities made possible by the presence of more than one adult in the classroom.

A similar point has been made about "team teaching". Usually, no more staff are available in a team teaching arrangement than in a conventional setup. The number of teachers and students remains the same. Flexibility is made possible, however, in the "assignment", scheduling, grouping and location in space of the students" (Shaplin and Olds, 1964). At the same time, there also can be more specific matching of tasks to the skills and experience of staff. Similarly, the effect of the different staffing models under study is expected to be by means of the different activity opportunities present when there are at least two staff in a classroom (or absent when there is only one, as in the single-teacher model).

Central to these opportunities is substantial relief from the tradeoff familiar to teachers of attending to the class as a group or attending to an individual student. As one person, it is much more likely that a teacher will have to do one or the other. With another staff person present, however, attention to both the group and an individual, or two smaller subgroups, can easily be simultaneous. This expansion of opportunity enables staff to take greater advantage of the different contributions each can make. For child care workers and aides who can contribute different roles or different approaches, this enabling aspect is especially significant (as is discussed in the next section of the chapter).

If the first aspect -- number of staff — could be distinguished from the other aspects of staffing models, the relationships expected between numbers of staff and climate dimensions are summarized in Table 6.1. Since the teacher-aide, teacher-child care worker and teacher-teacher models are mostly similar (i.e. two staff per class), they are combined in one column separate from the single-teacher model in the second column. Three groups of relationship are apparent:

-- higher dimension rating with more staff

-- lower with more staff

-- same level

In classes with more than one staff person, ratings are expected to be significantly higher on three climate dimensions: Involvement, Order and Organization, and Innovation. Students' sense of Involvement should increase because of the more immediate presence of staff which is more

Table 6.1 Expected relationships between number of staff and dimensions of classroom climate

Dimension	More than one staff (T-A, T-CCW, T-T) in relation to Single Teacher (T)
Involvement	higher
Affiliation	no change
Staff Support	no change
Task Orientation	no change
Competition	no change
Order and Organization	higher
Rule Clarity	lower
Staff Control	lower
Innovation	higher

likely when both group and individual interaction can occur at the same time. There would thus be less opportunity to feel bored or to daydream, signs of non-involvement. Similarly, there should be fewer signs of disorder or disorganization. Students are more likely to be quiet and behave themselves. Staff would be more able to plan and organize class activities. Indeed, there would be added impetus to do so in order to coordinate activities between staff. In comparison, as a teacher on your own in a class, there likely would be less time — and less reminder of need -- to get organized.

The considerations regarding the Innovation dimension seem very much related to Order and Organization, and also to Involvement. Innovations are more possible to develop when there is more time for preparation, and more possible to introduce when classes are orderly and involved. In turn, a more innovative class would be expected to stimulate more student involvement.

In contrast to the dimensions positively related to increased staffing, Staff Control and Rule Clarity are expected to be lower. The main argument for this direction of the relationship on Staff Control derives from the expected result for Involvement and Order and Organization. That is, need to exercise control is reduced when Involvement and Order and Organization are yielding the desired classroom behaviour. There may be perhaps as many rules as in single-teacher classes, but they are encountered or invoked less frequently.

The dimension of Rule Clarity also is expected to yield lower ratings when number of staff is increased. The

explanation may differ for teacher-teacher classes compared with teacher-child care worker or teacher-aide. Rule Clarity is likely to be reduced, on average, in teacher-teacher classes because the two staff have equal authority and may set different rules for students. In teacher-aide classes, on the other hand, the teachers are likely to assert their greater authority and thereby display levels of clarity similar to single-teacher classes. Teacher-child care worker classes could be expected to fall in the middle because (as will be discussed under the topic of Relative Status) some child care workers are likely to approximate the same level of influence over rules as teachers, while other child care workers will not.

On four of the climate dimensions, the number of classroom staff is not by itself expected to have significant effect. The basis for this expectation differs by dimension. In the case of Affiliation, it arises from the limited attention that student-student interactions generally receive (Johnson and Johnson, 1979). The prevailing orientation continues to be toward individual competition rather than toward cooperative goal structures that are more likely to foster student affiliation and self-esteem (Gump, 1980). Increasing the number of staff in classes is not expected to alter that orientation.

Regarding Competition, the effects of adding staff to classrooms are expected to offset each other. On the one hand, the presence of an additional adult can be expected to provide increased opportunities for student-staff interaction. At the same time, however, vying for those opportunities among students can also be expected to increase, particularly in a class for

children with psychosocial disorders. where attention needs are likely to be high.

Perceptions of Staff Support are likely to be shaped primarily by staff behaviour independent of the staff variable (e.g. personality-related factors). Task Orientation is not expected to be affected significantly for an opposite reason. Curriculum is largely set at the school board and/or Ministry level, not at the classroom level. To the extent Task Orientation can be determined in classrooms, it is likely to be seen as part of the teacher's instructional role, and hence less subject to influence by aides or child care workers.

b) Different Roles

A second aspect of different staffing models, which provided the central focus of Chapter 4, is the different roles of the teacher, aide and child care worker positions. As noted in that earlier discussion, the expectations for teachers generally can be grouped into three roles -- instruction, control and support. With the settings under investigation being school classrooms, the presence of teachers establishes these three roles as the basic set. (There are, of course, variations in the ways these roles are approached. The variations will be discussed in the next section.)

The roles which differ from the basic set and are introduced by different staffing models are the child care activity role and the ancillary role of aides. Looking first at the ancillary role, recall from Chapter 4 that it consists mainly of supervising children during recess and lunchtime. Aides thus have additional and different opportunities to

observe and interact with students than if they only worked in the classroom. There is a chance to see how they play and interact with each other. Moreover, beyond the necessary interventions (e.g. breaking up fights), initiatives can be taken to influence the activities or to facilitate social interactions of the children.

Against this positive portrayal of the ancillary aide role must be balanced two qualifying points. The first is that the expectations placed on the role are only for minimal supervision. As long as students are not getting into trouble, running away, or injuring themselves or others, aides need do no more than keep an eye on them. Secondly, more active aides may not obtain favourable results. If ineffective or antagonizing in their interactions, their own efforts back in the classroom may be hampered and the students' behaviour more oppositional. On balance, therefore, the ancillary role contributed by aides is not expected to result in a significantly or systematically different relationship for the teacher-aide staffing model in relation to climate dimensions than for other staffing models.

The other role different from the teacher's basic set of instruction, control and support is the child care workers' activity role. As described in Chapter 4, this role can consist of three kinds of non-instructional activities — routines, recreational and therapeutic. Table 6.2 summarizes the expected relationship between presence of the activity role and dimensions of classroom climate. As for Table 6.1, Table 6.2 makes the (artificial) assumption that the effect of different roles can be distinguished from the other aspects of staffing

Table 6.2 Expected relationships between different roles and dimensions of classroom climate

Dimension	Activity Role Teacher-Child Care Worker (T-CCW) in relation to other staffing models (T-A, T-T)
Involvement	higher
Affiliation	no change
Staff Support	no change
Task Orientation	no change
Competition	no change
Order and Organization	higher
Rule Clarity	lower
Staff Control	lower
Innovation	higher

models.

The pattern of relationship in Table 6.2 is very similar to the pattern summarized in Table 6.1 for the number-of-staff aspect of staffing models. For example, the activity role is also expected to increase rating of Involvement, Order and Organization, and Innovation. The interrelationship of these three dimensions is based on two assumptions applied in the preceding section of this chapter:

1. that greater Involvement yields more Order and Organization; and,
2. that Innovation stimulates Involvement.

Both are widely-held beliefs bolstered by some supporting research, the most highly regarded of which is Kounin's studies of classroom managment (1970). From observational study of primary classrooms, Kounin found that pupil involvement in seatwork was greater when teachers provided more varied tasks for them to perform. At the same time, deviancy was reduced. While these findings support the expected patterns of relationship between staffing models and classroom climate, two caveats should be noted:

1. the relationships highlighted from Kounin's study formed part of an overall analysis which included concepts to interpret teacher behaviour, such as "withitness". The involvement-innovation-order connection may only be applicable in the presence of certain staff behaviours.
2. Dunkin and Biddle (1974) rate Kounin's work highly in a comprehensive review of research on teaching, but

acknowledge that only limited research has been conducted to support Kounin's findings.

The impact of the child care work activity role in the discussion is based primarily on the content of the recreational part of the role. In comparison, routine and therapeutic kinds of activities are not likely to have significant relationships with dimension scores, except possibly for Staff Support. (Staff Support could be expected to be higher where child care workers are part of the classroom staff as a result of the added opportunities for interaction with students and awareness of their needs.)

The "recreational" term is misleading for activity in classrooms since the usual connotation of the term is physical recreation. However, games, music and crafts also fall under the recreational rubric and can be integrated readily into a curriculum. Useful in any classroom, these activities can be especially so in classes for children with psychosocial disorders, such children very likely having experienced many learning failures, and consequently out of frustration likely to resist more direct academic instruction. Non-academic activities may be more interesting while at the same time being fruitful learning opportunities.

As Order and Organization increases with Involvement, Staff Control can be expected to decrease. This relationship also is similar to what was expected in the preceding section from the number-of-staff variable. Likewise, no significant relationship is expected between presence of the child care work activity role and the Affiliation, Staff Support, Task

Orientation, or Competition dimensions. Rule Clarity is expected to be lower as a result of the variation in rules for games compared with other classroom activities.

In summary, the child care work activity role is expected to reinforce the effect of extra staff in the classroom where that staff includes child care. This expectation is on an average basis across the groups of teacher-child care worker classes, not in every class. The extent to which the child care work activity role is accorded emphasis by teachers is likely to vary. Also, in terms of relative scores for classes without child care workers, the gap is likely diminished by the increasing numbers of teachers (and aides) incorporating elements of the child care work activity role into their work.

c) Different Approaches

The third aspect of different staffing models to examine is the differences in approach to roles by teachers, aides and child care workers. As discussed in Chapter 4, the essential difference is between the more instrumental approach of teachers and the more expressive approach of child care workers, with aides somewhere in between. It was suggested that this difference fosters more personal, less formal relationships between child care workers (or aides) and students than the relationships between teachers and students. Another difference of approach is in the aides' instructional role. With teachers dominating that role, aides clearly are in a secondary position. However, their presence introduces greater opportunities (and expectations) for use of learning materials, audiovisual equipment, and for helping children with school

work.

The expected relationships between the different role approaches, if that aspect could be distinguished from other aspects of staffing models, and climate dimensions are summarized in Table 6.3. Again, the pattern is similar to, and reinforces, the direction of most relationships for the aspects of different roles and number-of-staff. That is, ratings of Involvement, Order and Organization, and Innovation are expected to be higher, ratings of Staff Control lower, with no significant change in Affiliation or Competition. In addition, as for the case of different roles being present, different role approaches are expected to yield less Rule Clarity. Inconsistent or contradictory messages to students about classroom rules are more likely when staff are pursuing different approaches.

Although the other aspects of different staffing models are not expected to affect Staff Support or Task Orientation ratings signficantly, the different approaches of child care workers and aides are shown in Table 6.3 as affecting these two climate dimensions. Staff Support is expected to be higher in both teacher-aide classes and teacher-child care worker classes. Both staff additions introduce a more supportive approach into the classroom. At the same time, the opposite effect is expected for Task Orientation: significantly lower in classes including aides or child care workers. To the extent that either additional staff person influences classroom activity, their approach is likely to be less oriented to academic tasks than the teacher's. While there are likely to be

Table 6.3 Expected relationships between different approaches to roles and dimensions of classroom climate

Dimension	Different Role Approaches of CCW's, Aides in relation to T-T
Involvement	higher
Affiliation	no change
Staff Support	higher
Task Orientation	lower
Competition	no change
Order and Organization	higher
Rule Clarity	lower
Staff Control	lower
Innovation	higher

some differences in role approaches between aides and child care workers, these are not expected, in themselves, to distinguish significantly between staffing models. What does distinguish significantly is the different role of the child care worker in the activity area.

d) Relative Status

A final aspect of staffing models identified as having significant effect on classroom climate is the relative status of teachers, aides and child care workers. With classrooms being the site of investigation, teachers are generally assured of the dominant status, compared to aides or child care workers. They have the primary mandate from the school board, the weight of the Teachers' Federation is behind them, usually teachers have more education and experience, and also greater public recognition/responsibility is accorded teachers. Where classes are located in schools, teachers have the added reinforcement of a surrounding colleague group.

While child care workers lack many of those advantages, they have gained recognition for their behaviour management skills and ability to relate to children. When they demonstrate these skills, child care workers are usually accorded increased status and influence. As discussed in Chapter 4, aides are clearly expected to be subordinate to teachers. If they are effective with students, however, their status also can be enhanced.

The generally lower status of aides or child care workers in relation to teachers is an aspect of staffing models running counter to the preceding discussion of number of staff,

different roles and different role approaches. Thus, it can be expected to have a generally dampening or constraining influence on the effects of those other aspects. With aide status lower than for child care workers, the dampening is likely to be greater on the effects of aides being added to classroom staff. This influence cannot be portrayed, however, in the same way as for the other three aspects in Tables 6.1, 6.2, and 6.3. It is included only as part of the overall analysis of relationships between different staffing models and climate dimensions. In aggregate, while these relationships are expected to yield significant patterns, they are not expected to produce extreme variations.

e) Summary of Expected Relationships

Bringing together the patterns described in the preceding pages and shown in Tables 6.1, 6.2, and 6.3, certain rank orders of climate rating can be expected for different staffing models. The expected rank orders are summarized in Table 6.4 which is obtained by an interpreted combination of the four analysed aspects of staffing models. For Involvement, as an example, the ranking of average ratings is from teacher-child care worker (highest) to single teacher (lowest). From Table 6.1, single teacher ratings are expected to be lower than for teacher-child care worker, teacher-aide or teacher-teacher. Table 6.2 showed that teacher-child care worker is expected to be higher than teacher-aide or teacher-teacher. Table 6.3 completed the ranking with the expectation that teacher-aide average ratings would be higher than teacher-teacher.

The pattern for Innovation is expected to be the same

Table 6.4 Expected rank orders of average staffing model for dimensions of CES (Highest - 1 to lowest - 4)

Dimension	Teacher-Child Care Worker	Teacher-Aide	Teacher-Teacher	Single Teacher
Involvement	1	2	3	4
Affiliation	---------- equal ----------			
Staff Support	2	1	3	4
Task Orientation	4	3	1	2
Competition	---------- equal ----------			
Order and Organization	1	2	3	4
Rule Clarity	4	3	2	1
Staff Control	4	3	2	1
Innovation	1	2	3	4

for Involvement; again, reflecting the analyses for the four aspects of staffing models. As discussed earlier in relation to Tables 6.1, 6.2 and 6.3, Order and Organization is expected to have a pattern of ratings similar to Involvement and Innovation. In contrast, the patterns for Staff Control and Rule Clarity are expected to go in the opposite direction: teacher-child care worker ranked lowest (4) and single teacher highest (1). No significant differences are expected on average Affiliation ratings for the different staffing models; hence, Table 6.4 shows equal rankings on that dimension. Competition is also not expected to be related significantly to staffing models.

From Table 6.3, the expectation for Staff Support and Task Orientation was for different rankings on teacher-child care worker and teacher-aide models, but the same rankings on teacher-teacher and single teacher. Table 6.4 shows that Staff Support is expected to be higher in teacher-child care worker classes (average rank of 2) and teacher-aide (average rank of 1); while Task Orientation is lower for these models: teacher-child care worker (4) and teacher-aide (3).

2. RELATIONSHIPS OF OTHER VARIABLES TO CLIMATE DIMENSIONS

While the purpose of the study is to examine the relationship between staffing models and classroom climate, it is evident from the model in Figure 1.1 that many other variables are present, as well, and intermingling their influence with the main relationship. Information on several of these variables also will be collected so that their influence can be eliminated from the central analysis. These "control"

variables are examined as three groups: student characteristics, staff characteristics, and organizational elements.

The selection of variables was based on a combination of factors, particularly indications from previous research or key informants of possible significance of relationship with staffing models or classroom climate (see Appendix A for type of informants consulted and areas of advice provided). Requirements of data collection also were considered. For example, information on students' past academic performance was not included since it would have to be obtained from school records — a source to which access is seldom granted. To keep survey costs low, the length of time required to collect data also was considered. Underlying the selection of variables was the acknowledged uncertainty in the related fields of research about what is worth including and what may later prove to be significant.

a) Student Characteristics

Four characteristics of students were included in the survey: age, sex, length of time in the class, and problem behaviour. Age was included because of the major developmental differences likely across the wide range of ages of the students being surveyed. These differences in cognitive and emotional development could be expected to affect perceptions of classroom climate. If the age distribution of students differs between staffing models, then age-related variations will confound the analysis of relationships between the staffing model variable and classroom climate. Whether students are male or female is

not likely to be as relevant to the study as the age variation. Since most students in special classes are boys (2/3 to 3/4), the smaller number of girls will have a limited effect on aggregate class ratings of climate.

The length of time enrolled in the class also was identified as a student characteristic to include. Some key informants anticipated significant differences in the average class lengths of time enrolled between different staffing models. Teacher-child care worker arrangements were over-represented in agreement classes, most of which are at children's mental health centres. With the centres' emphasis being increasingly on short term treatment, agreement classes may tend to have shorter lengths of time enrolled. If perceptions of classroom climate are influenced by length of presence in that climate, then a systematic difference may result in classes where students can be expected to stay longer (i.e. non-agreement classes). Including the length-of-enrolment variable permits this possibility to be tested.

The fourth student characteristic to be included is patterns of psychosocial disorder as measured by behaviour checklist. There have been few surveys of behaviour in special classes. For the main question of relationship between staffing models and classroom climate, the student behaviour variable is important for the same reason as the duration of enrolment. That is, there may be different patterns of disordered behaviour under different staffing models — not because of the staffing but as a result of an interrelated aspect. As noted above, the teacher-child care worker model is concentrated in classes at

treatment centres. If these classes were to have a preponderance of the students displaying bizarre behaviour, and if such students perceived aspects of classroom climate in markedly different ways, it would be useful to be able to take such an effect into account. As indicated in Chapter 7, the measurement of behaviours will be by staff-completed questionnaire called the School Ontario Children's Checklist (SOCC). The SOCC provides ratings for five groups of abnormal behaviours: Disruptive, Learning, Withdrawn, Bizarre and Coordination.

b) Staff Characteristics

Some basic information about classroom staff also was identified for collection in the survey: sex, education, work experience, length of time in current position, and extent of colleague contact. The sex variable has received continuing attention in classroom research, but its full significance has not yet been established. For example, Brophy and Good (1974) concluded that:

> "Although the few studies done so far must be taken as merely suggestive rather than conclusive, it may be that male teachers are more achievement oriented than female teachers.... However, there are also suggestions that male teachers may be too dominant and/or forbidding in their classroom manner."

But Cronbach (1977) suggests that a demographic variable such as sex will only have limited uses because of the psychological heterogeneity within any demographic group. Anderson (1971) also reported finding that teacher sex was unrelated to pupils'

perceptions of learning environment. The assumption in the special class study is that sex of staff will not have any significant relationship to staffing models or climate dimensions, but that assumption will be tested.

Post secondary education and work experience data were collected primarily to compare the backgrounds of aides and child care workers. It was not known what proportion of persons in child care roles had child care work certificates and thus might be expected to have different perceptions of their role expectations. It also was not known whether many persons in aide roles had formal education in child care or teaching, and thereby would approach their roles differently.

Work experience is the fourth staff variable included in the study. Since children with psychosocial disorders are likely to place special demands on staff, the extent and types of prior work experiences might be expected to affect dimensions of classroom climate through the behaviours of staff. Staff experienced in special classes, for example, may be able to maintain greater Order and Organization by being better able to recognize and defuse situations building toward class disruptions.

Length-of-time in current position was a variable added on the speculation that staff working together for more than a year are more likely to have developed effective means of collaboration. If they do, it could be expected to affect ratings on climate dimensions. For example, Rule Clarity might increase. During preparation for the study, key informants raised two concerns that suggested an additional staff

variable. One concern was a general one in human services that staff who do not feel supported are less likely to be supportive to the people they serve. The other point concerned the isolation from colleagues resulting from agreement classes between school boards and treatment centres. For classes located at the centres, teachers are located away from the usual setting of a school and other colleagues. For agreement classes located in schools, child care staff are the ones distanced from their colleagues. Accordingly, a simple measure of perceived extent of colleague contact was included to test whether there was any significant relationship to climate dimensions.

c) Organizational Elements

As noted above, the different staffing models are not evenly distributed across a number of variables; hence, the desirability of collecting data on a number of these characteristics in order to assess their significance in relation to classroom climate ratings. In addition to the student and staff characteristics introduced in the preceding sections, some organizational elements should be examined for the same reason. These elements are: school board status (public/separate), physical location of classroom, and whether or not it is an agreement class.

Table 3.3 showed that a substantial proportion (approximately 25%) of special education programs in elementary schools are operated by separate (Roman Catholic) school boards. Key informants indicated that the distribution of staffing models in separate school classes probably differed significantly from the distribution in public schools. If there

is that difference, and there also is some kind of systematically different effect on classroom climate, then the main relationships of climate and staffing model will be distorted. No such systematic difference is expected, but being easy to confirm, the possibility will be tested.

Regarding the physical location of classrooms and whether the class is based on a school board-treatment centre agreement, neither is expected, in itself, to relate significantly to classroom climate. However, both variables are unevenly distributed across staffing models, and any distorting effects that there may be on the relationship between staffing model and climate should be identified.

PART III

SURVEY PLAN AND ANALYSIS

CHAPTER 7

SURVEY SAMPLE, INSTRUMENTS AND PROCEDURES

The survey to test empirically the relationships formulated in Chapter 6 was conducted on a large number of classes for children with psychosocial disorders. This chapter outlines the sample selected for the survey, the instruments employed and the procedures followed to carry out the study. Additional related information is contained in Appendix A and B. A postcript to the chapter discusses earlier plans for the study which were not implemented.

1. SAMPLE

A number of considerations influenced the choice of sample for the survey. The primary aim was to include a representative sample of the main types of classroom staffing models: teacher with aide, teacher with child care worker, two teachers, and single teacher. As reported in Chapter 3, teacher-aide and teacher-child care worker classes are most numerous in Ontario. Since no province-wide tally had previously been done, it was only during research for Chapter 3 that it emerged that the other two types--teacher-teacher and teacher only--were rare and would have to be sought out in selecting locations for the study. Consequently, almost all of the existing classes staffed in these two ways were surveyed. In comparison, only about 15 percent of the teacher-child care

worker and teacher-aide classes were included. Nevertheless, the resulting sample of classes was quite large: 125 classes including over 250 staff and almost 800 students. The breakdown by type of staffing model was:

Teacher-aide ---------- 44

Teacher-child care worker ---------- 51

Teacher only ---------- 17

Teacher-teacher ---------- 13

Thus, using Moser and Kalton's terminology (1971), the sample would be described in the first instance as stratified and disproportionate, since differing proportions of each staffing model were included. Another important feature of the sample was selection by school board rather than by individual class. That is, in most cases all the classes or a majority of classes operated by a school board were included. This approach of cluster sampling was adopted mainly as a result of experience early in the project with the extensive approval procedures that most school boards require before research is permitted in their classrooms. Approval committees meet only periodically, require detailed descriptions of the research plan (for example, see Metropolitan Toronto document in Appendix A), and generally are increasingly reluctant to approve studies. (Studies take time and are likely to inconvenience board employees, sometimes also concern parents and, most of all, often don't appear to yield useful results.) For the same reason, as well as travel inconvenience and economy, the sample was selected from school boards in the larger urban centres of southern Ontario. Hence, the classes in the sample were clustered together by school

board and only the largest boards included. As will be discussed in Chapters 9 and 10, the non-random selection process limits the inferential possibilities of the study.

The sampling was accomplished by beginning with each public school board having more than 25,000 students at September 1976 plus the corresponding separate (Roman Catholic) school boards. From this total of 33 boards, several were excluded for the following reasons: moratorium on outside research (1 board); public school board with no special clases for children with psychosocial disorders (1 board); and, separate school boards with a very small number of special classes (5 boards). Of the remaining 26 school boards, six pairs of relatively smaller public and separate school boards also were excluded because their staffing models were similar to larger boards (teacher-child care worker and teacher-aide) and the total sample would have been much larger than considered feasible. The resulting sample of 14 school boards is essentially a 100 percent sample of classes for children with psychosocial disorders operated by the largest school boards in the province. (Unfortunately, one school board with both teacher-aide classes and teacher-child care worker classes would only allow the latter group to participate, thus reducing the sample somewhat.) The resulting group of 125 classes was small enough to be surveyed in a relatively brief period of time, yet large enough to permit full statistical analyses. For test purposes, at least 100 classes would be a minimum for any prospect of reasonable confidence levels on statistical tests (Cronbach, 1976). This size of sample was made possible by a

grant to hire interviewers.

Within the classes selected for inclusion in the survey, different sampling arrangements were adopted for the Classroom Environment Scale (CES) and the School Ontario Children's Checklist (SOCC). The CES was administered to all classroom staff and students present on the day of the survey, except any students who did not wish to participate (less than five students in total declined to participate). Moos recommends 100% participation for environments with small numbers of respondents (Moos, 1974). Furthermore, it was expected that all students would want to be included if at least some in a class were doing something interesting. Some school boards required parental consent. This was obtained by providing letters (see sample in Appendix A) for students to take home to their parents. All but two of the parents allowed their children to participate. Additionally, one parent called the author to ask questions about the survey, and a few parents did not return the form.

The SOCC was completed by staff on approximately half the students in each class (every second name on the class list in alphabetical order). Thus, in classes where there were two staff (most of the classes), two SOCC's were obtained on this 50% sample of students. Three considerations justified the 50% sampling for the SOCC. The main point was that the SOCC was to be used only at the aggregated group level. For example, how did the average behaviour scores in all the teacher-aide classes compare with the averages in all the teacher-child care worker classes? Or, how did the environmental perceptions of students

with high behaviour ratings compare with the perceptions of students with low ratings? A secondary, but still important consideration, was the length of time required to complete a SOCC. At 15-20 minutes per student, interviews with staff would have been twice as long (almost a full extra hour) to have SOCC's completed on the whole class. Finally, the large size of the total survey sample made it likely that a 50% sample would be reliably representative of the classes.

A further extension of the sample surveyed in the study was to include a group of regular classes. One of the school boards whose special classes were participating in the study offered a comparative sample of regular classes in the same schools. Twenty-two of these classes completed the CES (including 655 students). This data was not used in the main analysis but assisted in testing the validity and reliability of the CES.

The remaining two sections of the chapter describe the instruments and procedures employed in surveying the selected sample of special classes. Both procedures and instruments were tested in a brief pilot survey which indicated that only minor modifications were required. For the pilot test three classes were surveyed in succession using the same approach. After each, the survey was discussed with each participant, including both staff and students. By the third round of discussions, no new issues were arising and suggested modifications were endorsed. Descriptions of the modifications which were adopted are included in the following discussions of instruments and procedures.

2. INSTRUMENTS

The two main instruments employed in the study were the Classroom Environment Scale and School Ontario Children's Checklist. As was explained in Chapters 5 and 6, the Classroom Environment Scale was included in the survey to obtain perceptions of classroom social climate. The CES responses were the main test of classroom differences related to different staffing models. Collecting data on most of the other variables required recording forms of relatively straightforward design, except for students' behaviour. For this information, the School Ontario Children's Checklist (SOCC) was employed. Both the SOCC and CES were modified for the study. The changes to these instruments will be discussed in the following subsections, along with the other instruments developed for the survey.

a) Classroom Environment Scale (CES)

The regular form of the Classroom Environment Scale, as developed by Moos and Trickett, is shown in Appendix A as consisting of the nine dimensions, each of which is represented by 10 items; hence, 90 in total. Psychometric properties established in the original development of the CES are shown in Table 7.1. In the CES manual, the internal consistencies are described as "acceptable", the item to subscale correlations as "quite high", and the test-retest reliabilities as "acceptable". The average subscale correlations are interpreted as suggesting "that the subscales measure distinct though somewhat related aspects of classroom environments" (Moos and Trickett, 1974).

Table 7.1 (a) INTERNAL CONSISTENCIES, AVERAGE ITEM-SUBSCALE CORRELATIONS AND TEST-RETEST RELIABILITIES FOR FORM R SUBSCALES

Subscales	Internal Consistency (N=22 Classrooms)	Average Item-Subscale Correlation (N=465 Students)	Six Week Test-Retest Reliability (N=52 Students)
Involvement	.85	.57	.87
Affiliation	.74	.48	.73
Teacher Support	.84	.54	.89
Task Orientation	.84	.53	.78
Competition	.67	.44	.81
Order & Organization	.85	.54	.85
Rule Clarity	.74	.48	.72
Teacher Control	.86	.57	.79
Innovation	.80	.50	.90
Mean	.80	.52	

(b) FORM R SUBSCALE INTERCORRELATIONS (N=465) (DECIMALS OMITTED)

	A	TS	TO	C	OO	RC	TC	Inn
Involvement	49	45	15	15	49	19	-15	44
Affiliation		34	14	17	30	12	-09	38
Teacher Support			-25	05	19	00	-48	51
Task Orientation				41	42	41	49	-21
Competition					19	26	32	-02
Order & Organization						37	09	19
Rule Clarity							44	-09
Teacher Control								-33

Source: Moos and Trickett (1974)

It should be noted that these are the properties reported for the regular form of the CES. Regarding the short form of the CES, the manual states:

> "Intraclass profile correlations (Haggard, 1958) were calculated between the nine Form R (regular) and the nine Form S (standard) scores for a sample of 38 high school classrooms. The intraclass correlations were above .80 for 34 of the 38 classrooms. Only one classroom showed a correlation below .70. These results indicate that the 36-item CES Short Form obtains very similar results to those obtained with the regular form." (Moos and Trickett, 1974)

Accordingly, it was concluded that the short form of the CES could be used with confidence, especially since the short forms of Moos's climate instruments had been used in a number of other studies and no major difficulties reported. Further reinforcing use of the short form was the advice of key informants that students with psychosocial disorders would not likely complete a questionnaire requiring more than 15 or 20 minutes of concentration.

The form of CES employed in the study also is shown in Appendix A. A comparison of this form with the regular CES indicates that in addition to employing the short form (only the first 36 of 90 items), the wording of several items has been modified. The parts modified, and the changes adopted, are underlined in the two versions. The modifications were developed initially by interviews and pretesting with several school board, treatment centre and classroom staff; additional wording changes resulted from the pilot test described in the

preceding section. The modifications can be grouped into four categories:

1. minor rephrasing
2. replace "teacher" with "staff"
3. reorder items
4. reverse phrasing

In Appendix A the details of modifications are fully elaborated.

b) School Ontario Children's Checklist (SOCC)

The School Ontario Children's Checklist (SOCC) was developed as a combination of subscales from different sources for use in an Ontario Ministry of Health study comparing the behaviours of children in residential service programs operated by the Ministries of Health, Correctional Services, and Community and Social Services (Randall and McClure, 1972). (There was a companion HOCC [Home Ontario Children's Checklist], as well.)

The subscales chosen for the SOCC were selected on the basis of best meeting several criteria of reliability, validity, standardization and preferred design (empirical basis, specific items, clarity of meaning). The seven subscales which were combined to make the SOCC are shown in Table 7.2. The first two groups of items, labelled Conduct and Personality, were from the Behaviour Problem Checklist of Quay and Peterson (1967), and represented the undercontrolled and overcontrolled categories of behaviour discussed in Chapter 2. The Bizarre set of items was a combination of "bizarre" components from the Devereux Behaviour Rating Scale (Devereux Foundation, 1967) and items based on the definition of childhood psychosis by Creak, et al

Table 7.2 ORIGINAL SUBSCALES OF SCHOOL ONTARIO CHILDREN'S CHECKLIST

Subscale	Number of Items
Conduct (unsocialized aggression)	17
Personality (neurotic-disturbed)	14
Bizarre	28
Activity level (hyperactivity)	10
Sociability (social skills)	10
Perceptual learning	21
Coordination	17
TOTAL	117

Table 7.3 REVISED SUBSCALES OF SCHOOL ONTARIO CHILDREN'S CHECKLIST RESULTING FROM SONE FACTOR ANALYSIS (1974)

Subscale	Number of Items	Proportion of Variance Accounted for
Disruptive	24	10.4%
Learning	28	9.8
Bizarre	11	5.5
Withdrawn	11	4.8
Coordination	9	4.5
Social Maturity	8	4.2

Source: Sone (1974)

(1961). Two subscales were taken from studies by Sines, et al (1969): Activity level and Sociability. These were included to test whether distinct hyperactivity and immaturity categories would be supported by the data.

Two additional categories of items were added to the SOCC to identify signs of learning-related perceptual or coordination problems. The items are from a rating scale developed in Ontario for identification of children with learning disabilities (Munns, 1971). Randall and McClure (1972) explain that learning categories were included in the SOCC "because of the questions raised by both psychological studies and by parent and teacher groups as to the interaction between learning disabilities and emotional behavioural problems".

Randall and McClure specified in their proposal for comparison of children's behaviours in different residential programs that the SOCC results also should be analysed for refinement of the instrument. Accordingly, the second stage of SOCC development resulted from the Ministry of Health Study (Sone, 1974). Both HOCC's and SOCC's were obtained on approximately 1300 children ranging in age from 6 to 16 years, and including the following primary sub-groups:

Children's Mental Health Services - 490 (3/4 boys)

Correctional Services - 279 (4/5 boys)

Community and Social Services - 230 (3/4 boys)

Regular Community Schools - 283 (1/2 boys)

Unfortunately, documentation of analyses conducted on the survey data is very limited. It appears that factor analysis was performed only on the HOCC responses to five of the

scales (common between HOCC and SOCC) combined with SOCC responses to the other two scales. Considering the large number of children and the probable similarity of structure (if not level) of responses between teachers and child care workers or parents, this approach to the factor analysis did not likely have much of a distorting effect.

The result of the factor analysis (in which all items with factor loading under .40 were discarded) was as follows:

— retention of 91 of the 115 items, with more than half of the Bizarre items being discarded; only a few items discarded from other subscales.

— combining of Activity level and Conduct scales.

— splitting of Coordination, with half joining the Perceptual scale and half remaining distinct as a gross motor coordination scale.

— some Bizarre items joining Personality scale.

In summary, the new scales along with percent of variance taken into account by each are shown in Table 7.3. This is the form of SOCC employed in the present study, although two items each of which support two subscales were deleted, and the Social Maturity scale was not used because it has only limited support in rating scale studies (Achenbach and Edelbrock, 1978). In addition, more detailed instructions for completion of the SOCC were provided as a result of questions/ suggestions from the pilot study. A copy of the SOCC, as used in the survey, is in Appendix B.

c) Class List

This form was designed as a companion for the SOCC and

CES (see Appendix A). As discussed in Chapter 6, any differences in CES responses by student age and length of time in the class were to be identified. Neither had to be too precise so age last birthday was adopted as easier to obtain. (Otherwise, staff would have had to consult their record files for date of birth). Similarly, for length of time in the class. The pilot test indicated that staff awareness usually was in terms of students having been there:

-- since last year

-- since start of the school year

-- in the past month

-- somewhere between the past month and the start of the school year.

In terms of student completion of the CES or staff completion of the SOCC, it did not seem important to know the exact number of months a student had been in the class. Presence in the class for 3 months versus 4 months, or 3 years versus 2 years is not likely to make significant differences in classroom perceptions (Moos and Trickett, 1974). Entry to the class in the preceding month could be expected to affect perceptions of classroom climate. Also, if a student had been in the class prior to the beginning of the school year, an influence on perceptions is more likely. As reported in Chapter 9, there are few significant relationships between length of time in class and CES ratings.

From the pilot test, it also was found that a student's first name was the easiest way to connect age and time-in-class information with the CES and SOCC. It also provided a random

means of selecting which students would be included in the sample for staff completion of SOCC's.

d) Guide For Staff Interviews

The Guide For Staff Interviews is shown in Appendix A. With primary emphasis in this study on the information obtained with the CES and SOCC's, staff interviews did not have to receive major attention. It was advantageous, however, to give them special emphasis for three reasons. During the process of obtaining permission from school boards and pilot testing the survey, it was evident that school staff are growing tired of the inconvenience and frequently indifferent treatment that results from their participation in research projects. To avert such feelings about this project, interviewers were chosen on the basis of their personal approach as well as their competence in the survey tasks. A friendly responsive approach to classroom staff and students was stressed. (Yet, they also had to refrain from discussing the nature or content of the study, except in the general way agreed upon in the preparation sessions. Those who wanted to inquire further were contacted by the author after the survey visit was completed.)

Most of the items on the interview guide could have been obtained as a self-completion form. However, it was evident from the pilot test that asking the questions aloud provided a relatively easy starting point for the staff interviews. This facilitated rapport with interviewees and led into semi-structured discussion of classroom staffing models. Some elaboration of these models was of interest to see whether any patterns were identifiable within the primary distinctions

based on types of staff (such as teacher-child care worker). Obtaining this exploratory, less structured information was the second purpose of the staff interviews.

The third reason for emphasizing the interviews was to ensure immediate completion of the SOCC's. Since it could take more than half an hour to do SOCC's on three or four students, a number of staff wanted to complete them later and have them picked up. Not only would this take added time and expense, it also proved from the first experiences to result in long delays in returning the completed SOCC's. Conveniently, only a small number of staff insisted on delayed completion of the SOCC's, the rest accepting it as an integral part of the interview. Most staff completed the SOCC's on their own while the interviewer continued having students do the CES individually in another room (see procedures described below).

3. PROCEDURES

Two levels of procedures were developed for implementation of the survey: arranging for the survey (including getting organizational participation and interviewers), and visiting classrooms (scheduling the visit and interviewing students, staff).

a) Arranging the Survey: Organizational Participation

Obtaining permission from school boards and treatment centres to conduct the study in their classrooms proved to be an elaborate, time-consuming process. This was especially the case with most of the school boards and some of the larger treatment centres which have formed research review committees. Six of the school boards required completion of a research application

form similar to the example in Appendix A (used by school boards in Metropolitan Toronto). The five-page research plan outline prepared for these applications also was provided to the other eight school boards. Those boards also required interviews with their superintendents of special education who made the decision themselves or made a recommendation to the board's Director of Education.

Further complicating the approval process were the inevitable delays in arranging interviews, and the infrequent meetings of research committees. Moreover, as noted earlier, school boards are increasingly reluctant to approve research applications as the number of applications has grown. Delays in contacting some boards and extended discussion with other boards spread out the survey period more than originally planned. The first classes were visited in mid-February, most in March and April, with a few not being reached until late in May. (Middle of the second term of the school year was chosen as the time of most stable, representative classroom climate.)

Compared to the school boards, most of the 18 treatment centres readily agreed to participate, usually on the authority of the Executive Director. In two cases, the decision was taken at staff meetings. (Only one centre refused to participate, the reasons being that the staff felt they and the students were too busy with school activities.) The relative ease with which the centres were enlisted for the survey appears to have been a consequence of most of them being much smaller organizations than school boards. Additionally, the centres have not been inundated with researchers.

After a school board gave general approval to the project, the schools with classes to be surveyed had to be consulted about their participation. In most cases, this was by letter from the board's central office (see example in Appendix A). Two of the first school boards to be surveyed suggested that the interviewers need only contact the schools directly. This arrangement was cumbersome since the schools wanted central office opinion; also interviewers had to refer a number of school principals with questions to the principal investigator. In a third school board, the complete research application was sent by central office to several schools giving some classroom staff too much advance information about the survey. Subsequently, the standard letter was required for all schools. Very few schools refused to participate and the reasons were mainly circumstantial (e.g. sudden change of teachers).

b) Arranging the Survey: Interviewers

To survey a large number of classes in a short period of time, several interviewers were recruited -- ten, plus the author. With an approximate total survey time of four full months (80 survey days) and half as much time again to arrange the surveys, such a large survey would not have been practical by one person. Accommodation costs also would have been prohibitive. Travel costs were minimized by hiring local interviewers in four cities across the province. The interviewers were selected by the following criteria:

interviewing experience

experience with children

reliability

organized

personable

not currently a teacher, child care worker or aide

own transportation

available for part-time work

The interviewers (with one exception) were given at least one training session each and were accompanied by the author on their first survey visit. (The one interviewer not given a training session was an experienced researcher in a more distant location who surveyed a small number of classes having had only telephone briefing and a copy of the written instructions.) The training sessions included an outline of the project, how to arrange visits, which questions to answer and which to refer to the author, the interview procedures, and reporting requirements. The project was presented to them as a survey of perceptions about classroom environment. The need to conduct the survey in a highly professional and considerate manner was strongly stressed. Some felt their degree of involvement was constrained by the structured format of the survey. For example, the CES was tape recorded for students, and the SOCC's and CES's were self completed by staff (see interview procedures below). However, the interviewers did acknowledge that it permitted them to be attentive to interpersonal aspects of conducting visits. This was exactly as intended: interviews conducted in a relatively uniform manner, visits creating a positive reception.

In this regard, confidentiality of results was to be

stressed because of its concern to respondents. Any of these questions (and there were many) were to be answered clearly and fully. For example, classroom staff wanted to know who would see their own class environment profile (answer: only themselves and the author). Questions about the purposes of the study or about research design, (e.g. what hypotheses are being tested, how will this data be useful) were to be referred to the author. There were very few such questions.

One additional note about the interviewer's concerns — their assignment to classes. Ideally, they could have been assigned randomly so that interviewer effects could be checked statistically. This was not deemed feasible, given the wide geographic dispersion of the sample. In practice, interviewers generally surveyed classes located closest to them. (Table B.1 in Appendix B shows the distribution of classes by interviewer.) Other practical considerations included interviewer availability in particular periods of time, which classrooms were on the ground floor (one interviewer was handicapped), and the number of classrooms at a location. Regarding this last point, arrangements were attempted so that all the classrooms at the same location were visited on the same day so that students or staff in one class would not be having second-hand information about the survey from those who had already participated. Given the relatively high degree of structure in the survey arrangements (e.g. same tape recording of CES heard by all students) the non-random assignment of interviewers was not expected to have significant biasing effect.

c) Visiting Classrooms: Scheduling

Once a school board had approved the survey, the participation of each classroom had to be confirmed and a visit scheduled. Usually the interviewers made these arrangements by themselves. Each board specified its own procedures for contacting classes so there were some variations. The most common arrangement was for the interviewer to telephone the school principal a few days after a letter had been sent from the board's central office (see suggested sample in Appendix A). Most principals had immediately consulted the classroom staff about participation in the study. In those cases, the interviewer usually scheduled a date directly with the teachers to visit their classes. If the principal had not yet consulted the staff, he usually suggested calling back later and speaking directly to the teachers.

Initially, the interviewers were instructed to avoid Mondays and Fridays for class visits, as well as days on which classes have special events scheduled. The author had been cautioned that on the first and last days of the school week, classes are more likely to be restless and less likely to respond in their normal manner to a survey. (Later, some visits were made just before or after a weekend without any apparent adverse consequences.)

If possible, interviewers were to try to talk about the visit directly with at least one of the classroom staff (in practice, usually the teacher). This seemed to have two advantages: it yielded more detailed information about arrangements required for the visit (e.g. a class always goes to

the gymnasium at 11:00); and it established more personal contact with the classroom staff. One arrangement the interviewers had to be sure to reserve was a separate room, preferably near the classroom, for interviews. Interviewers were instructed to give clear expectations to the classroom staff about the time requirements for a visit: approximately 45 minutes for each staff person and 15 minutes for each student. In a few of the early visits, the length of time, particularly for staff interviews, had not been clearly indicated in advance, and some respondents had to be coaxed to take sufficient time.

d) Visiting Classrooms: Student Interviews

In planning the survey, primary concern was placed on ensuring honest, reliable responses to the CES by students. Each student was interviewed individually in a separate room. That way, everyone could proceed at their own pace, and the interviewer would be right there to answer questions. As noted earlier, the CES was tape recorded as well as being printed on the response form. Many students in the classes being surveyed don't read very well and/or have trouble concentrating. The tape eliminated embarrassment about reading problems and aroused strong interest (there were frequent requests to push the buttons on the tape recorder).

Interviewers were encouraged to make the same effort to establish rapport with students as with staff. Usually, there were shared walks between the classroom and interview room as well as time during the interview to be responsive to students. These conversations frequently provided additional information and understanding about the class situation. Interviewers were

to record any significant points on the worksheet provided for each visit.

For the interview itself, interviewers were given the following basic instructions:

Interviewer begins with a brief introduction emphasizing that:

1. The purpose of the survey is to find out what students and staff <u>really</u> think about their class.
2. It is not a test; we want their own opinions.
3. It is confidential -- only the interviewer and researcher will see the responses.
4. "Staff" in their class means (names of staff in the class).

The tape recorder is turned on. It begins with instructions about how to respond.

The interviewer should anticipate providing assistance during the student's completion of the CES (see Appendix A).

Although CES's were administered individually in the special classes, this procedure was not considered necessary for the regular classes which were surveyed. In those classes, the interviewer distributed the CES to students as a group during one of the class periods. Students were to raise a hand if they had a question, and the interviewer came to their desk to provide an answer. As soon as it appeared that the CES's were completed, they were collected by the interviewer.

e) <u>Visiting Classrooms: Staff Interviews</u>

The sequence for staff interviews was:

1. interview guide
2. class list
3. CES
4. SOCC's

The interview guide was to be completed by the interviewer while being discussed quite conversationally with each respondent (to establish rapport). Following completion of the interview guide, the class list is prepared so that students can be listed in alphabetical order and selected for the SOCC's, while staff respondents are completing the CES. Finally, a SOCC is to be completed on each of the students selected (50% of the class). Additional details on instructions for staff interviews are in Appendix A.

4. POSTCRIPT ON STUDY DESIGN

The preceding sections of Chapter 7 have discussed the sample, instruments and procedures as used in the study. At early planning stages, two additional components were contemplated but later discarded. Brief discussion of these components and reasons for their not being retained have some relevance to the study as conducted and may interest readers.

a) Service Orientations

When a study of collaboration between service systems (e.g. education and treatment) was initially considered, a factor suspected to be influential, perhaps of more influence than staffing model, was treatment orientation or ideology. In Chapter 2, these different approaches were described as treatment perspectives; other terms that have been used include "orientations" or "ideologies". Whichever the terms, the

suggestion is that staff or organizations following similar approaches will find it easier to collaborate than if their approaches are different. This issue of congruence could arise between or within professional disciplines.

In this study of staffing model effects in special classrooms, the kind of differences in orientation anticipated were, for example, between a behaviourally oriented teacher and a psychodynamically oriented child care worker. Considering the only partial levels of professionalization among child care workers and aides, perhaps even of teachers, it seemed advisable to explore in a preliminary way whether service orientations were sufficiently distinct and different to affect collaboration. For example, Strauss, et al (1964) found in their study Psychiatric Ideologies and Institutions that nurses showed "a nearly similar degree of support for all these ideological orientations" and that psychiatric aides

> "did have a philosophy of "helping" patients and even believed that their own work with patients was more important than the work of the professionals--but they had their own modes of thinking about these matters, strikingly distinct from professional modes".
>
> (Strauss, et al, 1964)

One of the larger programs operating as an agreement between the local board of education and provincial Ministry for placement of teachers in a children's mental health centre offered to provide a site for a preliminary exploration of the service orientation proposition. Several hours of interviews were conducted and tape recorded at this site with teachers,

child care workers and aides, both in group discussions and individual interviews. The interview guide discussed in the next section of this chapter and reproduced in Appendix A was used to structure the interview process. When service orientation was raised in any way, extra attention was devoted to exploring the point.

What was clearly evident from the interviews and analysis of the tapes was the relatively lesser significance of service orientation and relatively greater significance of different professional roles. The lesser significance of service orientation seemed to be a mixture of the two aspects quoted from Strauss, et al: Service orientations are generally not well developed or dogmatically maintained by teachers, aides and child care workers. Hence, the focus of negotiations about collaborations is more on a functional level of who does what, rather than how they do it. The results of this preliminary inquiry led to the decision to concentrate on staffing model and to discard the service orientation variable.

b) Extensive/Intensive Combination

The second component discarded from the study actually was incorporated into the design through a second stage of planning. Even the most cursory review of organizational studies immediately indicates that studies usually adopt either an extensive or intensive approach, but rarely a combination. Frequently, the opposite approach to the one adopted and reported upon is recommended for complementary further research. The obvious advantage lies in studies that combine the two approaches to combine the advantages of both. That was

planned for this study of staffing models--a balanced extensive/intensive inquiry.

The plan was to conduct the extensive portion, essentially as ultimately carried out according to the process described in sections 7.1 to 7.3. It was expected that an intensive study could then be targeted to focus on a small number of classrooms (three or four) that offered experience of the range of staffing models and classroom climates identified in the survey analysis.

The focus of the intensive portion of the study would have been on the staff interaction process using a combination of participant observation and staff interview procedures. Both procedures would have been aimed at delineating the nature and scope of the interactions, as perceived by staff and observer, and how they are evaluated by the staff. A copy of the draft interview guide developed at that stage of planning the study is included in Appendix A. Plans for the observation component never reached the stage of procedures being specified.

Although plans to conduct a combined quantitative/qualitative study were developed and the combination of approaches had obvious merit, the qualitative portion was not retained in the final plan for fieldwork. The main drawback which loomed large at the time was the extent of additional work which the combined study would have required. As a result of delays in the planning process (affected in part by a major reorganization of children's services in Ontario), field work was commencing two and a half years into the period of study. Dropping either of the two components from the study

would save an estimated 3 months, at least.

The quantitative portion was retained primarily because there was a particular opportunity available (funds to hire interviewers) which seemed timely to seize with the social climate approach gaining prominence and appearing to offer considerable potential. The Staff Interview Guide did include a question about class organization as noted earlier in Chapter 7, and responses to that question are analysed in Chapter 9.

In retrospect, the optimism about Moos' Classroom Environment Scale was not justified, as is made clear in the next two chapters (8 and 9).

CHAPTER 8

APPRAISAL OF CES AND SOCC INSTRUMENTS

Before analysing the substantive results obtained from the survey described in Chapter 7, properties of the main research instruments CES and SOCC) will be examined. Reliability is assessed initially by analysing internal consistency of the subscales which comprise the two instruments. This discussion leads on to more detailed exploration of the instruments' structures by means of multidimensional scaling and cluster analysis.

1. INTERNAL CONSISTENCY

Internal consistency of the CES was calculated by coefficient alpha for dichotomous variables, using Kuder-Richardson Formula-20 in SPSS, (Nie, et al, 1977). Based as it is on the ratio of item variances to subscale variance, the coefficient provides an indication of the homogeneity of items in a subscale. If the sum of variances of items is small in comparison with the variance of the total subscale score, then the reliability coefficient will be high. This relationship between variances exists when respondents tend to answer each subscale item in a consistent direction but their total scores are at opposite extremes.

The alpha coefficients for special students are shown in Table 8.1 in comparison with the values reported in the CES manual for the standard original sample of 22 regular classes. Every subscale indicates considerably less homogeneity than

Table 8.1 Internal consistency of CES dimensions for special class students and standard sample

Dimension	Special Class Students	Standard Sample (CES Manual)
Involvement	.37	.85
Affiliation	.26	.74
Staff Support	.36	.84
Task Orientation	.16	.84
Competition	.12	.67
Order and Organization	.46	.85
Rule Clarity	.17	.74
Staff Control	.07	.86
Innovation	.35	.80

originally reported for the CES. Even the highest, for Order and Organization Dimension, is at a questionable level of acceptability — .46.

This may be due in part to the use of the CES short form (14 items per scale, rather than 9). McKennall's approximate formula (1977) indicates that the item reduction on the CES would reduce the alpha coefficients by 10-20%, even with the same average inter-item correlations. The CES Manual (Moos and Trickett, 1974) does not report reliability coefficients for the CES short form but it indicates high correlation between the responses on regular 9-item CES's and the short 4-item form. This suggests that the reliability coefficients on the short form might be lower than on the regular form by the proportion suggested by McKennall's approximate formula. Yet, the coefficients shown in Table 8.1 for the special class sample are considerably lower, suggesting other factors need to be considered.

A further technical factor that may account in part for the lower reliability coefficients is the use of overall individual variances in the calculations rather than average within-class variances as is the case for the Moos and Trickett data. Stern points out (1970) that class-based variances are likely to be somewhat smaller and thus yield higher alpha coefficients. However, with the much smaller classes in this study (average of 6 students per class, compared with over 20 in Moos and Trickett) the advantage of using average within-class variances would likely be minimal.

An obvious source of lower reliability to investigate

is the special status of the classes included in this study, compared with the regular class student populations of other CES studies. Not only are the classes much smaller in the present study, as noted above, but the students also have varying degrees of psychosocial disorder. The inclusion of a few (22) regular classes in the study is useful in this regard, because it provides a local comparison group. Although the regular classes yield CES responses with somewhat higher reliability coefficients than do the special classes (see Table 8.2), the difference from Moos and Trickett's data remains substantial. Thus, the special nature of the classes in the study accounts only to a limited extent for the very low CES reliability.

Similarly, it might be suspected that the younger average age of the students in this study is a major determinant of the low reliability coefficients. However, as Table 8.2 shows, the reliability data vary little by age on most dimensions.

The proportions of true/false responses to the 36 items of the CES short form used in the survey provide some clarification of the generally low reliability coefficients in Table 8.1. Table 8.3 shows the proportions, grouped by CES dimension, for each of items 1 to 36 separately for special class students, regular class students, and special class staff. It is evident that for almost every dimension there is a wide variation in the proportions of true/false responses. Particularly notable is the number of items with very high true (or false on reverse scoring items) response rates. In other words, there are many items answered the same way by a high

Table 8.2 Internal consistency of CES dimensions for special class staff, older students, and regular class students

Dimension	Special Class: Staff	Special Class: Students	Special Class: Older Students only (ages 14 and older)	Regular Students
Involvement	.34	.37	.38	.52
Affiliation	.45	.26	.36	.39
Staff Support	.10	.36	.35	.22
Task Orientation	.26	.16	.29	.04
Competition	.34	.12	.08	.59
Order and Organization	.34	.46	.37	.60
Rule Clarity	.06	.17	.18	.28
Staff Control	.59	.07	.32	.39
Innovation	.49	.35	.59	.35

Table 8.3 Aggregate "true" response frequencies on CES items grouped by dimension. (See note at end of table.)

Dimension	Special Class Students	Regular Class Students	Special Class Staff
Involvement			
Item 1	77%	58%	77%
10 R	56	60	77
19 R	48	56	88
28	60	59	79
Affiliation			
2	89	91	84
11 R	80	88	79
20	79	88	48
29	58	71	45
Staff Support			
3	80	62	95
12	90	85	100
21	77	62	67
30	90	87	100
Task Orientation			
4	66	64	46
13	87	93	86
22 R	65	69	79
31	89	86	89
Competition			
6 R	69	87	23
14	77	67	23
23	70	56	39
32 R	51	54	55
Order and Organization			
7	78	72	92
15	37	26	33
24 R	36	41	69
33 R	37	36	60
Rule Clarity			
5	92	83	98
16 R	57	74	91
25	84	69	95
34	86	81	97

Table 8.3 Aggregate "true" response frequences on CES items grouped by dimension. (See note at end of table.)

-- Page 2 --

Dimension	Special Class Students	Regular Class Students	Special Class Staff
Staff Control			
8 R	48	55	59
17	79	54	36
26 R	49	55	85
35	80	79	62
Innovation			
9	78	63	76
18 R	60	76	71
27 R	52	55	57
36	81	78	95

Note: For items marked "R" the frequencies are of "false" responses rather than true responses, since these items were worded oppositely.

proportion of students, and also staff. Yet, other items in the same dimensions differ more from class to class. In such a circumstance, coefficients of reliability are markedly lower than they would be if the response proportions were more uniform.

a) SOCC Internal Consistency

Reliability of the SOCC was examined in the same way as for the CES by computing alpha reliability coefficients for the sub-scales. The coefficient for each of the five subscales was quite high as can be seen in Table 8.4. Table 8.5 groups the SOCC items according to the frequency range of yes responses. It indicates that some items from the Disruptive and Withdrawn subscales were reported much more frequently than most items from the other subscales. For example, two of the Disruptive items were marked by staff as descriptive of over 70% of students.

Another way to assess the extent and variation of behaviour items marked as describing students is shown in Table 8.6. This table answers the question: how many items on each sub-scale applied to how many students? Table 8.6 shows, for example, that over 80% of the Disruptive sub-scale items were marked for 11.9% of the students. In contrast, for 66% of the students less than 20% of the Coordination items were marked. More generally, the table indicates, as one would expect, that Disruptive behaviours are the most common and Coordination behaviours the least common in the classes.

In addition to studying the relationships between SOCC rating and type of staff responding, the SOCC ratings also were

Table 8.4 Internal consistency for SOCC factors

Factor	Alpha Coefficient	No. of Items in scale
Disruptive	.87	24
Learning	.80	27
Bizarre	.73	10
Withdrawn	.72	10
Coordination	.79	8

Table 8.5 Distribution of SOCC items by total frequency among students rated

Frequence Ranges	Number of SOCC items of each factor					
	Disrup-tive	Learn-ing	Biz-arre	With-drawn	Coordi-nation	Total
70-79	2					2
60-69	3	1		2		6
50-59	5		1	2		8
40-49	5	4		2		11
30-39	6	6	2	1		15
20-29	3	10	2	3	6	24
10-19		5	4		2	11
0-9		1	1			2
TOTAL	24	27	10	10	8	79

Table 8.6 Distribution of students by proportion of SOCC items rated as applying to them

Proportion of Items Applicable	Disrupt-ive	Learn-ing	Biz-arre	With-drawn	Coordi-nation
0 - 19%	15.4%	41.8%	51.1%	16.6%	64.5%
20 - 39	22.8	30.4	28.5	27.8	13.5
40 - 59	26.6	17.8	12.1	29.0	7.8
60 - 79	23.3	8.1	4.0	15.2	6.4
80 - 100	11.9	1.9	4.3	11.4	7.8
	100%	100%	100%	100%	100%

compared with the student variables included in the study: age, sex and length of time in the class. The results are summarized in Table 8.7. For the three student variables, the general patterns (with a few exceptions) are:

1. higher ratings for males
2. higher ratings for students in the classes for longer periods of time
3. higher ratings for younger aged children

As noted in Table 8.7 the statistical significance of the pattern varies by variables and by SOCC factor. Deviating most from the general patterns are the ratings of Withdrawn behaviour. These tend to vary less on the three variables than the ratings of the other four factors. As a result, the statistical significance of variations (e.g. by age of student) is lower than for the other factors. The lower ratings for female students fit with general experience that a greater proportion of boys is identified as disturbed and their levels of deviant behaviour are regarded more often as extreme. However, Withdrawn behaviour is identified to an approximately equal extent in both boys and girls.

Table 8.7 also shows the average ratings for each factor for the four categories of length of time students have been in their classes. As expected, those in their classes less than a month have lower ratings. Either they are better behaved or the staff haven't yet seen as many of the deviant behaviours. It also was expected that students still in the class from a previous year or from the start of the school year would have higher ratings. This is shown in Table 8.7 to be

Table 8.7 Comparison of Average SOCC ratings by student sex, time in class, and age

Student Variable	No. of Students	SOCC Factors: Disruptive	Learning	Bizarre	Withdrawn	Coordination
SEX:						
Male	(356)	49.9	30.5	24.1	42.8	24.5
Female	(65)	41.2	20.6	15.5	40.6	11.9
Anova level of significance:		.05	.05	.05	NS *	.01
TIME IN CLASS:						
Less than month	(35)	36.5	21.5	16.0	40.6	15.3
After start of year	(110)	46.7	24.1	19.9	42.1	18.3
From start of year	(152)	50.3	29.8	24.4	40.2	25.6
Since previous year	(124)	51.3	34.3	20.2	46.1	24.6
Anova level of significance:		.05	.001	.10	NS	NS
AGE:						
Up to 9	(118)	52.4	37.4	29.9	41.9	32.0
10	(69)	49.8	28.5	20.5	44.4	21.2
11 to 13	(133)	50.5	27.2	20.4	38.8	18.3
14 and up	(101)	40.4	21.7	19.1	46.5	17.9
Anova level of significance:		.01	.001	.001	.10	.001

* Not significant

true to a significant extent on the Disruptive and Learning factors.

The behaviour ratings generally are higher for younger aged children, the exception again being the more mixed pattern on the Withdrawn factor. Why the ratings of younger children are higher is not immediately apparent. The general impression one hears is that adolescents are more badly behaved than younger children. Yet, the data in Table 8.7 suggest the opposite.

To shed further light on this pattern by age of child, the frequencies on items Q1 to Q79 of the SOCC were compared for an older group and a younger group of students. Since age of child was not coded on the SOCC file, the two groups were obtained by selecting all students in classes with an average age of less than 8.3 years and those with an average age of 14.5 years and above. (Most classes are homogeneous age groupings; thus students' ages usually are the same as the class average.) Of the resulting 115 student sample, 62 were in the younger age group and 53 in the older age group. The frequencies for Q1 to Q79 for the two age groups are shown in Appendix C as cross-tabulations. Generally (84% of the items), the younger group has a higher proportion of yes ratings. However, there is a wide variation in the degree of difference in ratings between the two groups. Phi coefficients were computed to determine the degree of relationship between age group (younger/older) and rating (no/yes) for each item, Q1 to Q79. Because of the relatively large number in the sample (115) and only one degree of freedom, there is a statistically significant relationship

(at .05 level) for almost all items.

More informative, however, is the proportion of variance for which the age variable accounts. This can be calculated as phi squared (see McNeil, Kelly and McNeil, 1975). Table 8.8 lists the 8 items for which the age variable accounts for at least 10% of the variance. Note that 6 of the 8 items are from the Learning factor of the SOCC, and the other two from the Bizarre factor. The six Learning items are behaviours which one would more likely expect from younger students, as is the case here. In the case of all 8 items, a much higher proportion of the younger group of students was rated as showing the behaviour.

2. CES MULTIDIMENSIONAL SCALING

The significantly lower reliability coefficients in the sample data compared to the original standard sample (reported in Table 8.1 above) led to the question of whether the Moos subscales were the best groupings of the CES items -- best in the sense of highest reliability coefficients — to use in analysis of the survey results. To examine this question, the degree of association was computed between all pairs of the 36 items of the CES form used in the study. From the many available measures of association, the simple matching coefficient was selected as appropriate, considering the dichotomous (true/false) response data from the CES. Sneath and Sokol (1973) recommend the simple matching coefficient when negative matches (false, false) between items also are to be taken into account, as is the case here.

Table 8.8 SOCC items on which student age accounts for more than 10% of the variance in average ratings between older and younger students

	SOCC Item	Factor	Phi Statistic
12	Hits or bites himself; makes faces; makes senseless movements of fingers, arms, legs or head	Bizarre	.346
21	Shows reversals in letters or numbers (Prints "b" instead of "d").	Learning	.419
43	Does not know his right side from the left side.	"	.378
45	Has difficulty telling time.	"	.543
66	Shows inversion of numbers or words (i.e. - 12 for 21, or "saw" for "was").	"	.326
67	Talks to himself.	Bizarre	.379
68	Gets confused with directions, such as going from left to right, up or down, behind, to the side, etc.	Learning	.353
78	Has difficulty in copying material from blackboard or from page at desk.	"	.375

Since the resulting matrix of association coefficients between all pairs of CES items consists of 630 entries, it is difficult to analyse. Various data reduction procedures such as factor analysis or multidimensional scaling (MDS) can be performed on the association matrix to explore whether an underlying pattern in the data is more readily interpretable. MDS was employed rather than factor analysis because of the debate among statisticians regarding the theoretical correctness of applying factor analysis to dichotomous data. The objection to factor analysis is that it determines a linear combination of the input data which best accounts for the variance in that data. In the case of an association matrix for dichotomous variables (e.g. the CES data in this study), those opposing the application of factor analysis argue that computing linear combinations of nonlinear data is illogical. On the other hand, there is the more pragmatic opposing view that factor analysis yields meaningful results with little distortion, provided the data base is large (e.g. 500 respondents). Although the data base in this study was sufficiently large to adopt the pragmatic view, it was decided to heed the theoretician's caution.

For the same reason as MDS was chosen over factor analysis, the non-metric form of multidimensional scaling was used. The advantage of non-metric MDS is that no assumptions need be made about the data being analysed, except that of monotonicity. The assumption means that there does not need to be a linear relationship between the measures of association and the distances between them when scaled. Instead, there only needs to be the same order: if the association between

variables i and j is less than between k and l, then the scales distance between i and j should be greater than between k and l. When this restriction is met among a large number of variables, the scaling solution approaches the uniqueness of a metric solution.

As expressed by Napior, the utility of the multidimensional scaling model:

> "lies in the fact that it gives a compact multidimensional representation of the information in the association matrix in a format that has intuitive meaning because of its strong analogy to our ideas concerning spatial distance between physical objects."
>
> (Shepard et al, 1972)

A data reduction outcome is achieved through MDS by the representation of points that are more closely associated and those farther apart. However, the MDS representation is only an approximation of the pattern of the association matrix which must balance compression of the data complexity while retaining satisfactory fit to the data. A common index of "badness-of-fit" in MDS is "stress", which is computed as the square root of a normalized residual sum of squares (i.e. a measure of discrepancy between the MDS configuration and the data). MDS programs (such as KYST employed here) minimize the stress score.

For special class students, KYST yielded a stress level of .153 for two dimensions and .095 for three dimensions. However, the third dimension did not materially enhance interpretation of the configuration of points. The added

complexity of the third dimension would indicate which items are above or below the plane of the two-dimensional plot, but since most points are relatively close to that plane little added perspective is gained and clarity is reduced. The two-dimensional plot of scaling results is shown in Figure 8.1. It shows a concentration of half the points just left-of-centre. Reference back to Table 8.3 indicates that most of these points represent the CES items which received a high proportion of "True" responses from students. There is at least one item from every CES dimension, with three or four each from Affiliation (3), Staff Support (4) and Rule Clarity (3).

In the upper right quadrant three items of Order and Organization dimension (15, 24, 33) are close together. Nearby, three items of Involvement (10, 19, 28) are in the same vicinity. In the lower right quadrant there are two items from the Staff Control dimension (8, 26) near each other, and two items from Innovation (18, 27). Otherwise items are quite scattered across the configuration.

For comparison, the two-dimensional configuration (stress of .176) for regular class students is plotted in Figure 8.2. Again, stress was lower on the three-dimensional plot (.124) but the interpretation of results was not greatly improved. Figure 8.2 has some basic similarities with the special student configuration --- a large main grouping (though somewhat looser) with many of the same items, and, a three-item grouping from the Order and Organization dimension. Major differences are the more distinct groupings of Involvement items (1, 10, 19, 28), and of three Staff Control items (8. 17, 26),

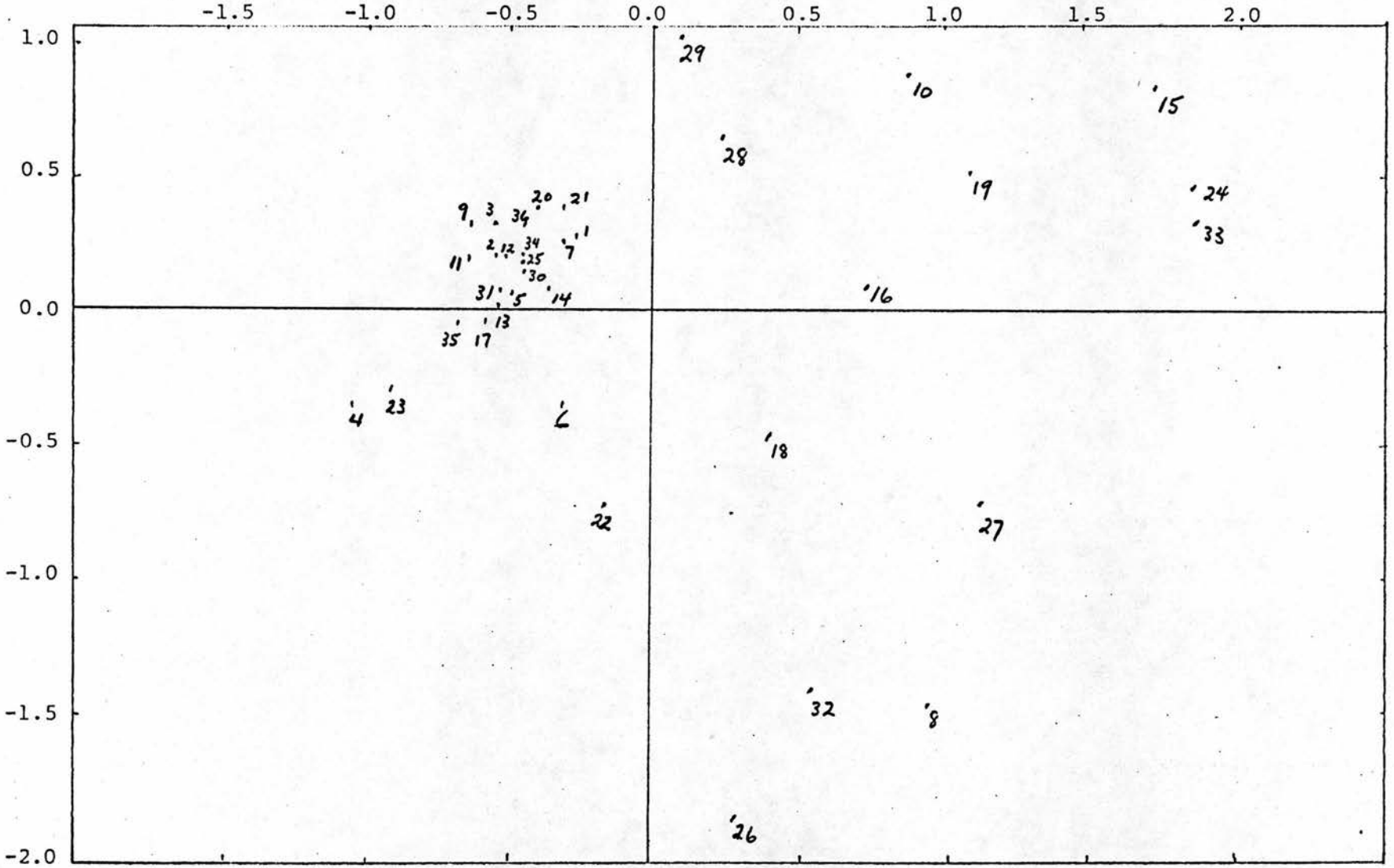


Figure 8.1 Two-dimensional configuration for scaling of CES items -- special class students

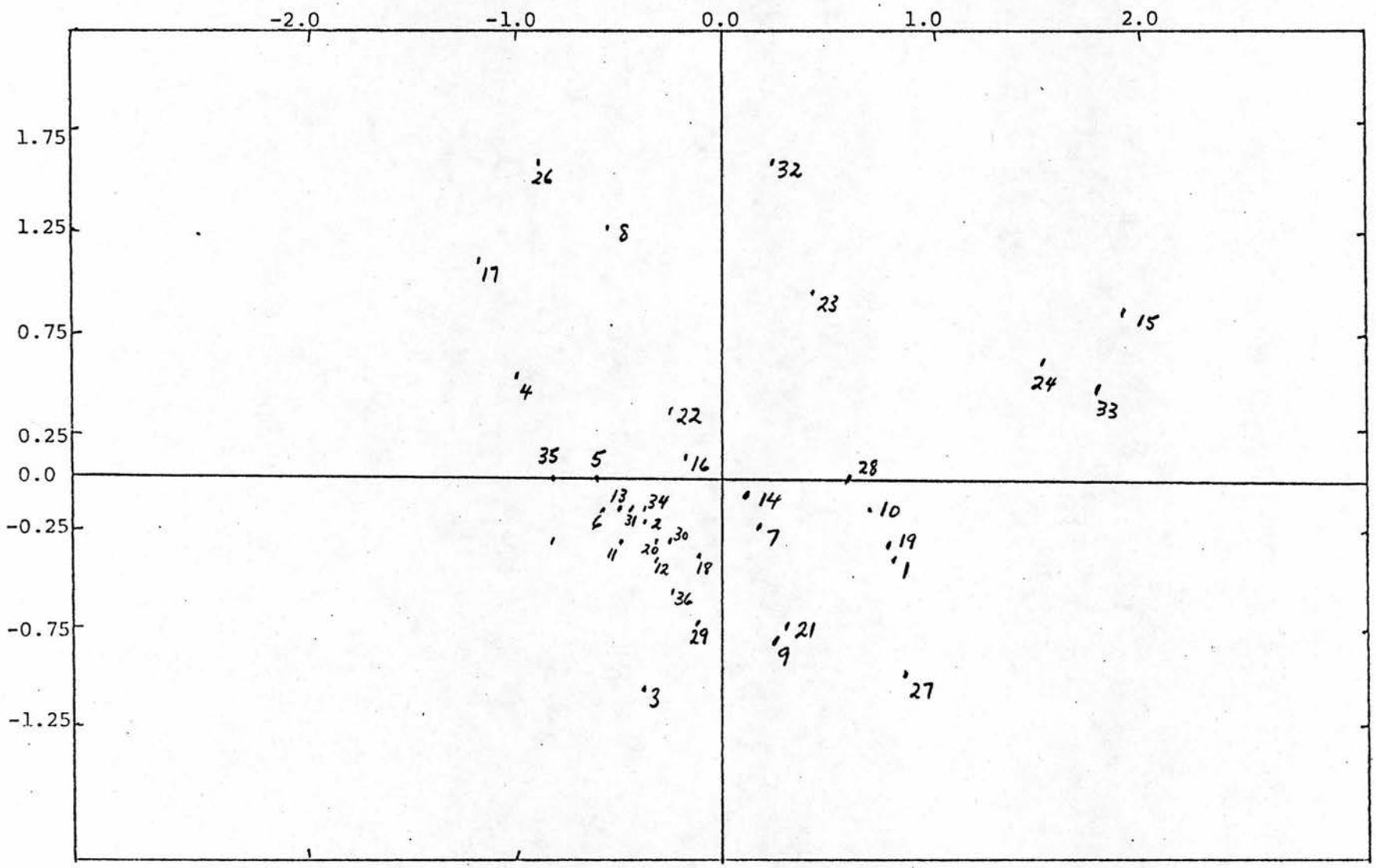


Figure 8.2 Two-dimensional configuration for scaling of CES items -- Regular class students

and the somewhat different relative positioning of the groupings on the axes.

Multidimensional scaling of the special class staff CES's yielded a very different configuration which is shown in Figure 8.3. The stress for this scaling solution was .139, compared with .088 for the three-dimensional solution. As for special and regular students, there is one main grouping which includes 3 or 4 items per dimension for the Affiliation, Staff Support and Rule Clarity dimensions -- items with very high proportions of True (or False on reverse scoring items) responses. In addition, however, the four items of the Involvement dimension also are part of the main grouping. At the same time the Competition dimension items which are in the main grouping for both special and regular students form a distinct separate grouping in the staff MDS pattern. These contrasts between staff and student patterns suggest some important differences in the structures of perceptions of the two groups.

The results of the multidimensional scaling confirm and clarify the picture suggested by the frequency and alpha-reliability data: the CES dimensions established by Moos are present only partially in the data of this classroom study. There have been other recent indications that the nine Moos dimensions are not particularly robust. (See Trickett and Quinlan, 1979).

The question remains as to what structure of the CES data should be employed in testing the hypotheses of this study. The MDS configurations suggest 2 or 3 groupings for each

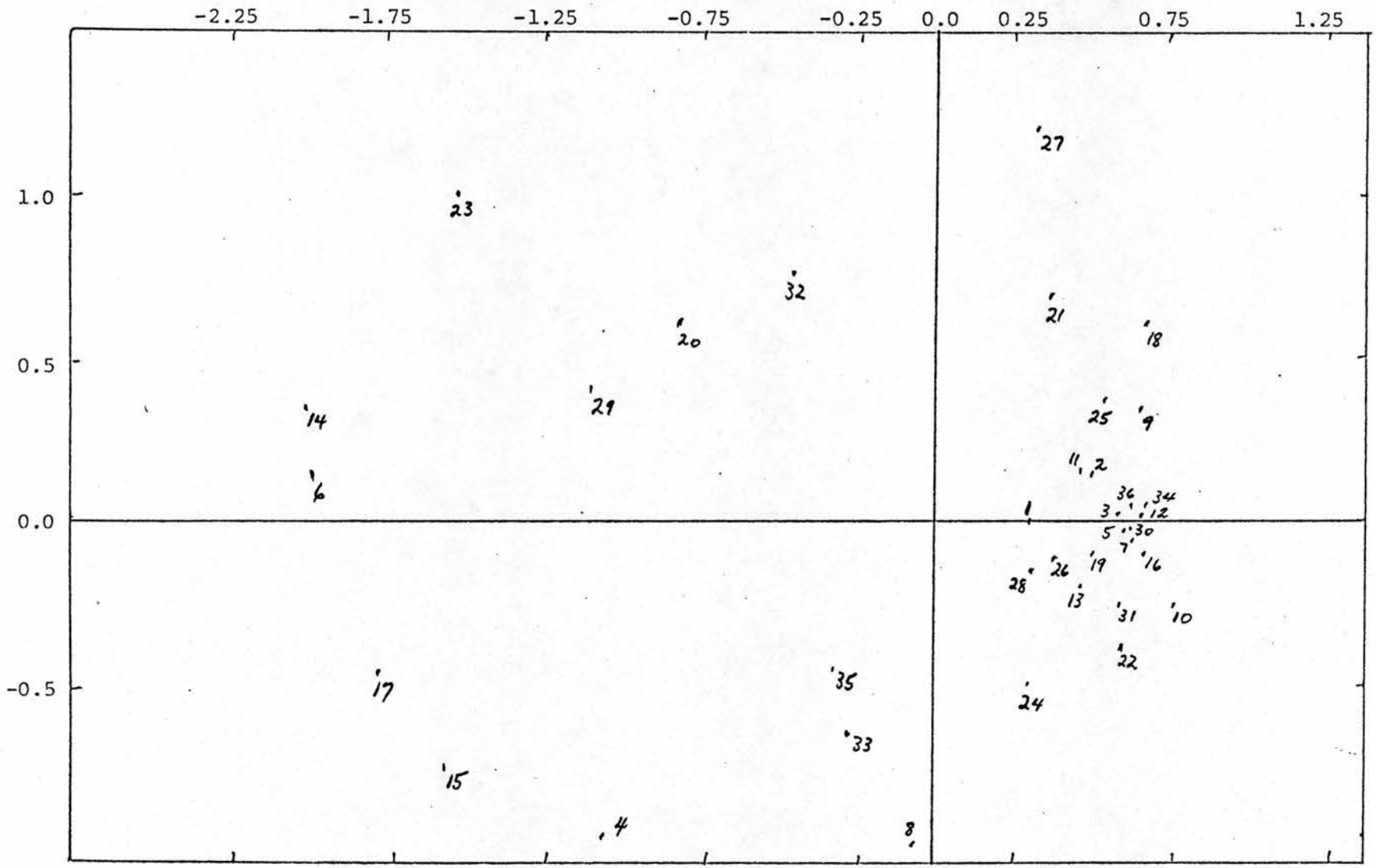


Figure 8.3 Two-dimensional configuration for scaling of CES items -- Special class staff

subject group (special class students, and staff, and regular class students). However, MDS configurations are shaped primarily by the large dissimilarities (Graeff and Spence, 1976). That is, the broad pattern is more reliable than the relationships of closely-spaced variables which could be altered somewhat by minor variations in the similarity data (e.g. different samples).

3. CES CLUSTER ANALYSIS

To complement the broad patterning of MDS, clustering is now being employed because it better reflects the small dissimilarities (Kruskal and Wish, 1978). Clustering is an exploratory method of sorting items (cases or variables) into groups such that the degree of association is high between members of the same group and low between members of different groups. Cluster analysis techniques, of which there are many, can serve the same data reduction purpose as multidimensional scaling or factor analysis (see Everitt, 1974 for review).

Cluster analysis was performed on the CES results using the OCLINK program called OCLINK in IMSL. (IMSL, the International Mathematical and Statistical Libraries, is a collection of over 100 procedures written in FORTRAN) OCLINK is a single-linkage hierarchical clustering program. It takes the two items which are closest together (according to the association matrix provided) and progressively adds items to clusters, one at a time. As pairs of items are encountered which are closer together than any item is to the first cluster, it begins new primary clusters to which items also can be added

individually.

Usually, 2 or 3 different clustering techniques would be employed in an analysis. In this case, however, the cluster analysis was used only for confirmation and refinement of the multidimensional scaling analysis. Thus, one clustering technique was considered sufficient. Single linkage was the technique selected because it is relatively inexpensive, especially for data sets as large as the CES file in this study. It also is easy to apply and interpret. Hierarchical clustering results usually are portrayed in tree-like diagrams called dendograms. The dendograms for special class students, special class staff, and regular class students are shown in Figures 8.4, 8.5, 8.6. However, the same results can be superimposed on to MDS configurations as concentric rings around the variables which cluster together. Figures 8.2, 8.2, 8.3 are reproduced as Figures 8.7, 8.8, 8.9 with the clustering rings added. With so many points close together in the main clusters, several rings within the outer ring have been omitted.

Looking first at the special students' combined MDS clustering configuration (Figure 8.7), we see that the general shape of the scaling plot is reinforced by the cluster analysis. However, the possibility of a cluster around related Involvement points (10, 19, 28) is not supported. At the same time, the proximity of 8, 26 and 32 is highlighted as a cluster.

For regular students, those two cluster possibilities are resolved in the contrary direction. Involvement (1, 10, 19, 28) is a primary cluster and the proximity of 8, 26, 32 (also 17) does not yield a cluster.

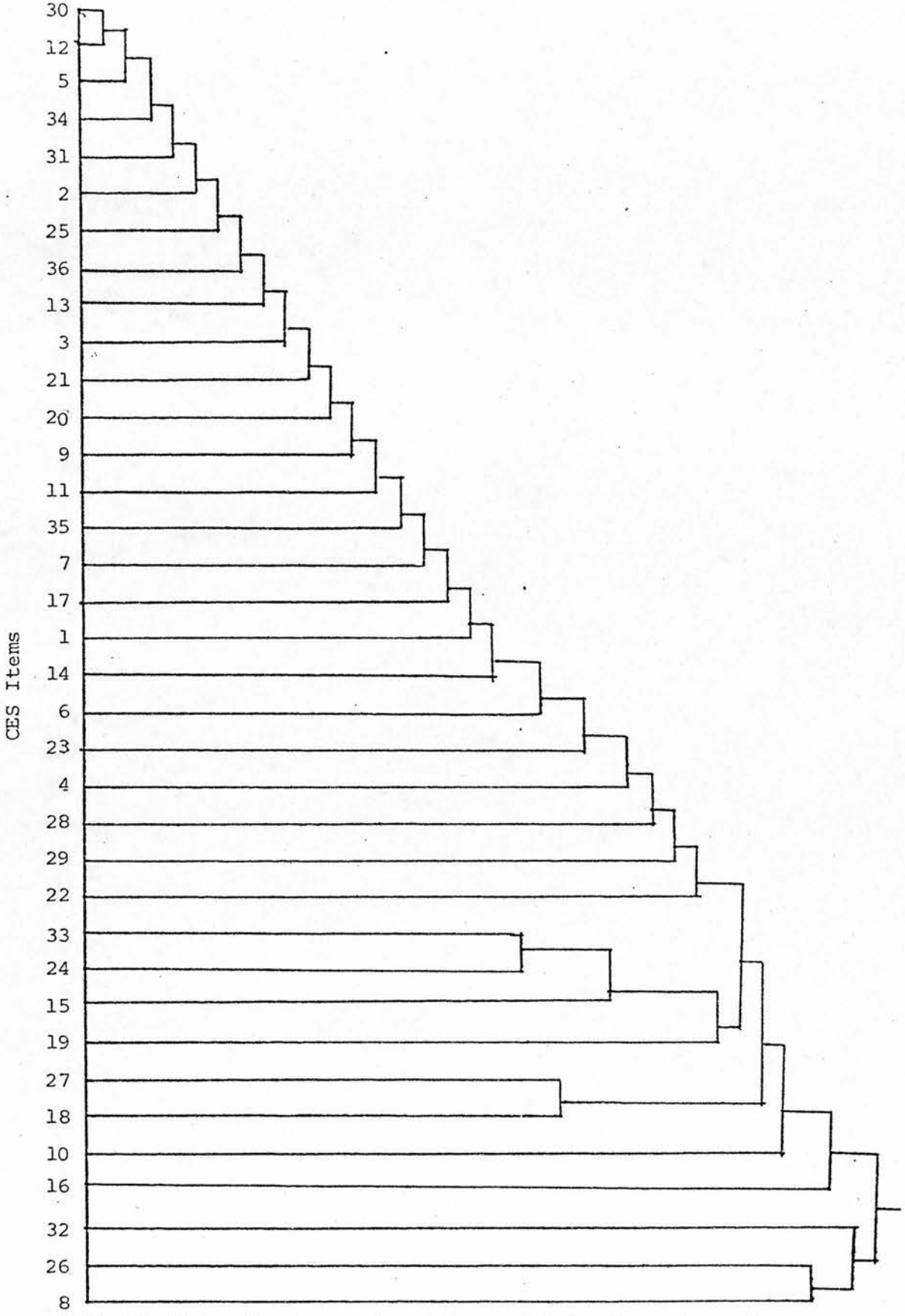


Figure 8.4 Dendogram from hierarchical clustering of CES items -- Special Class students

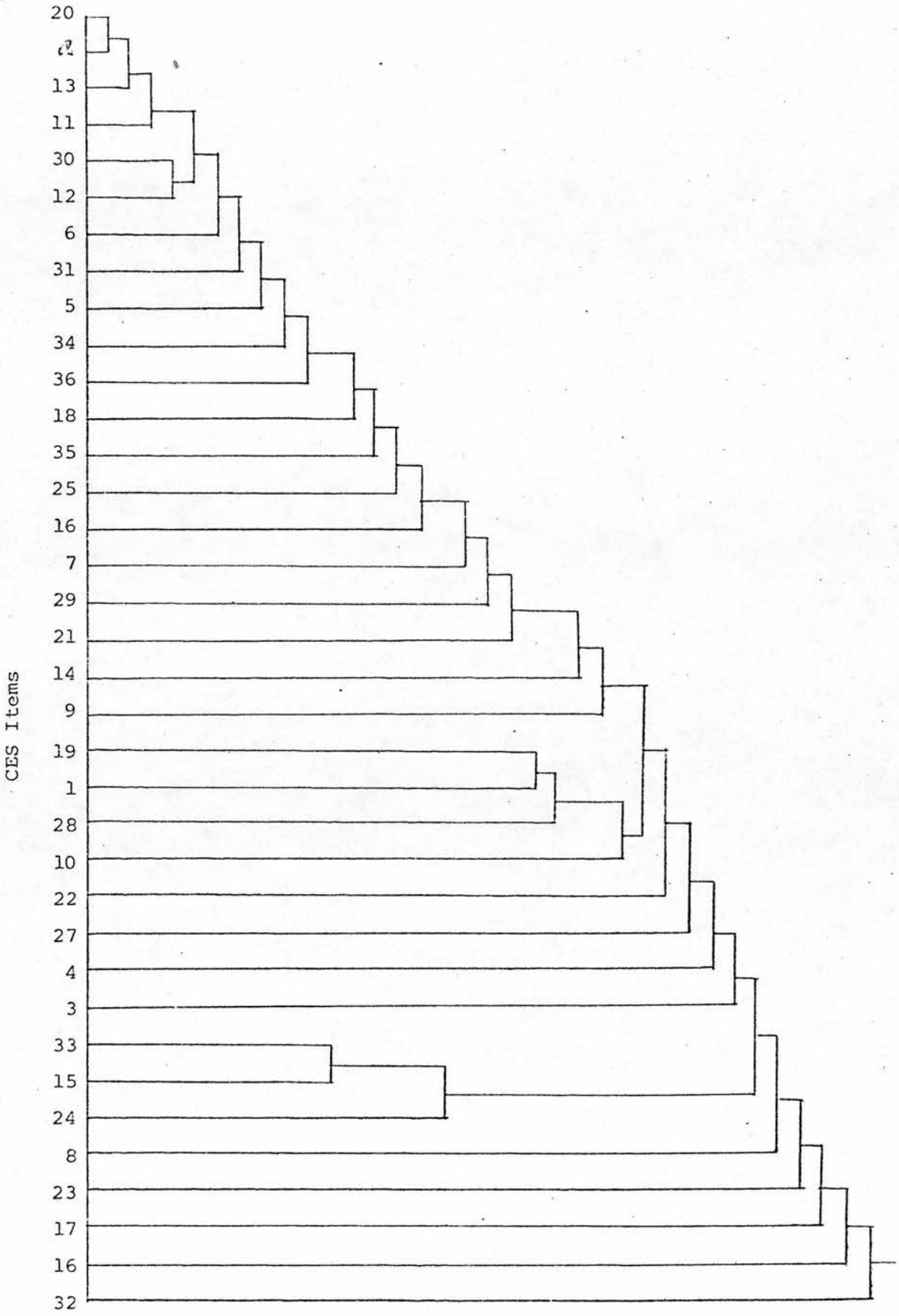


Figure 8.5 Dendogram from hierarchical clustering of CES items -- Regular Class students

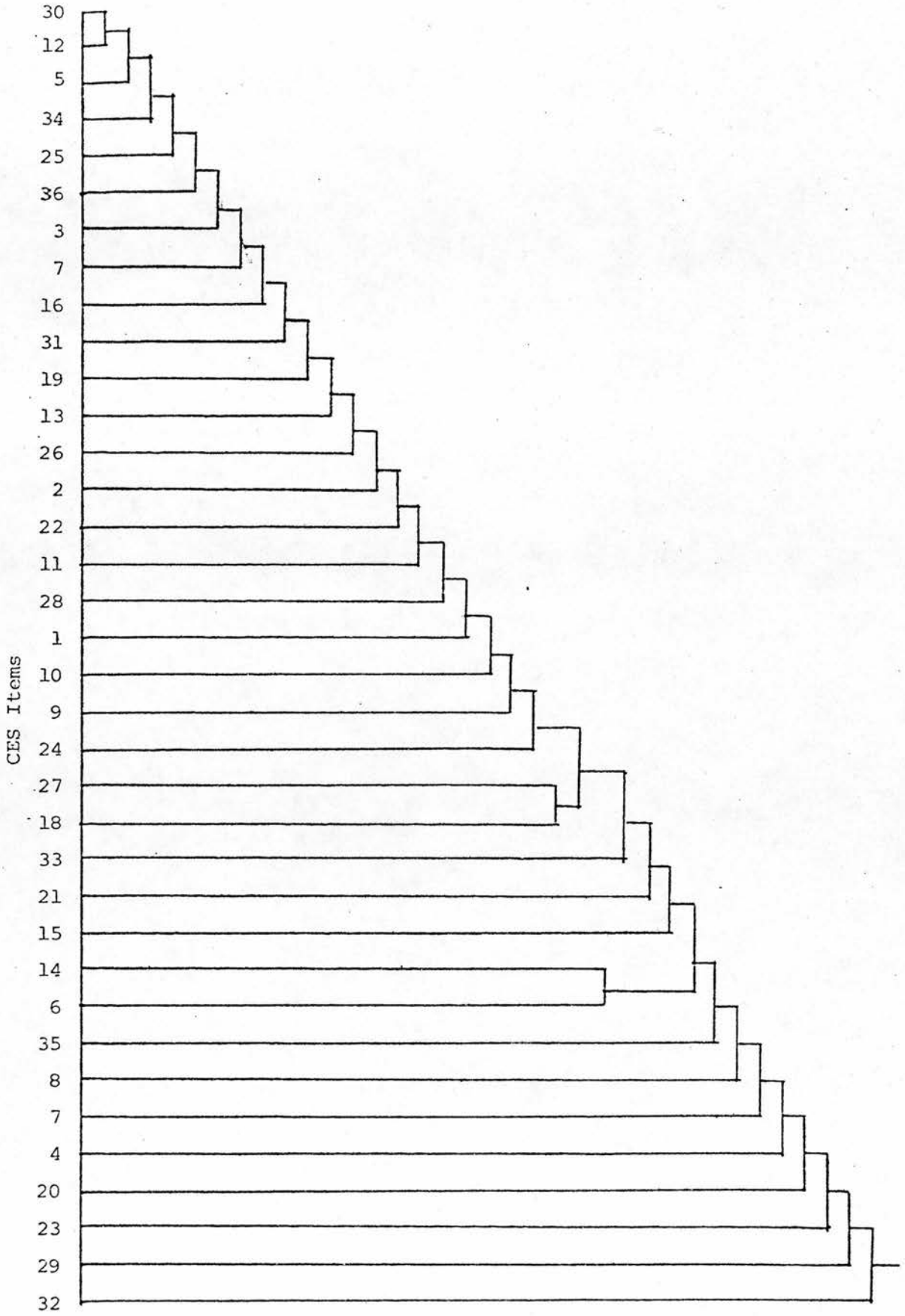


Figure 8.6. Dendogram from hierarchical clustering of CES items -- Special Class staff

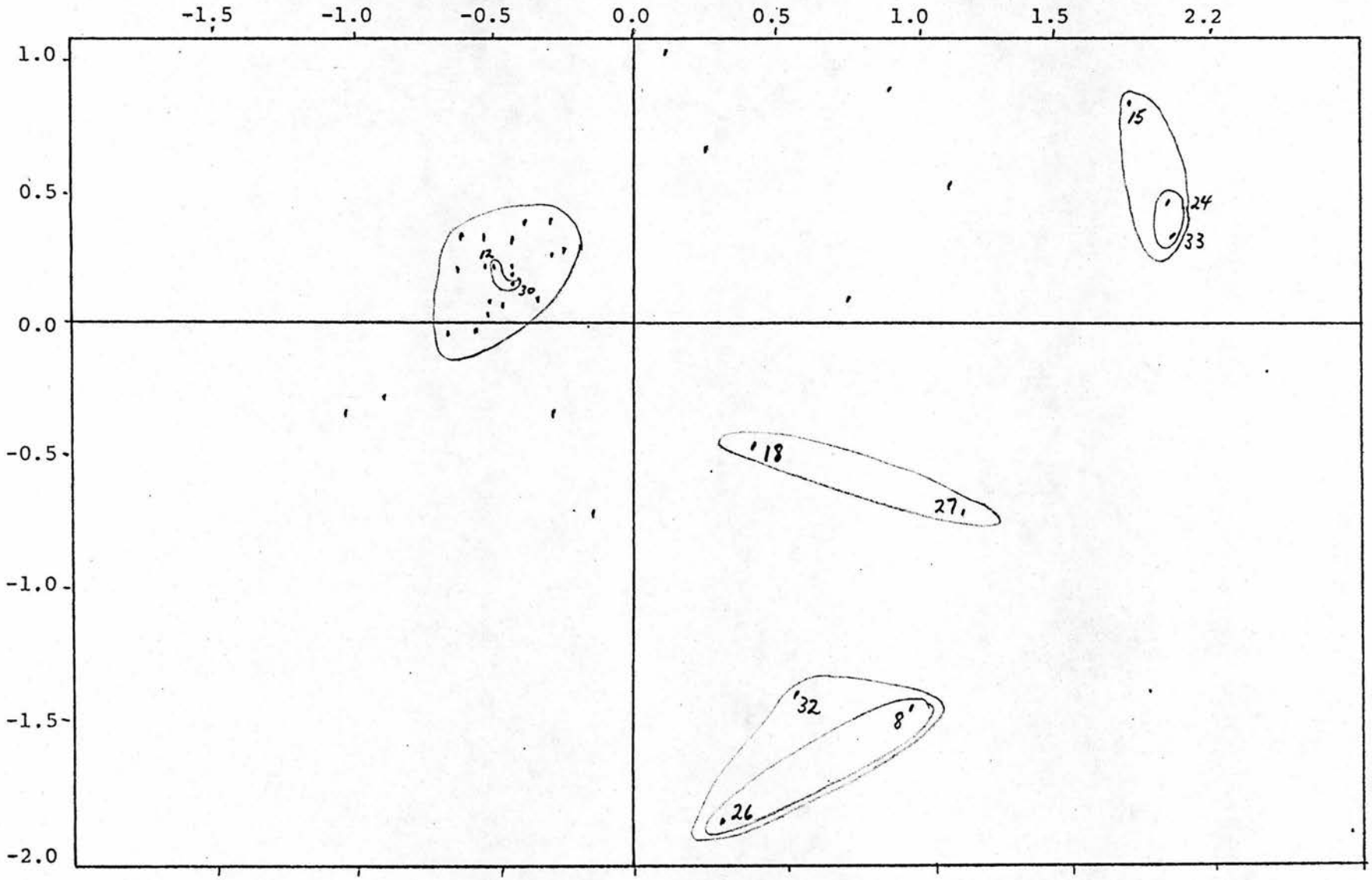


Figure 8.7 Cluster loops added to scaled configuration (Figure 8.1) -- Special class students

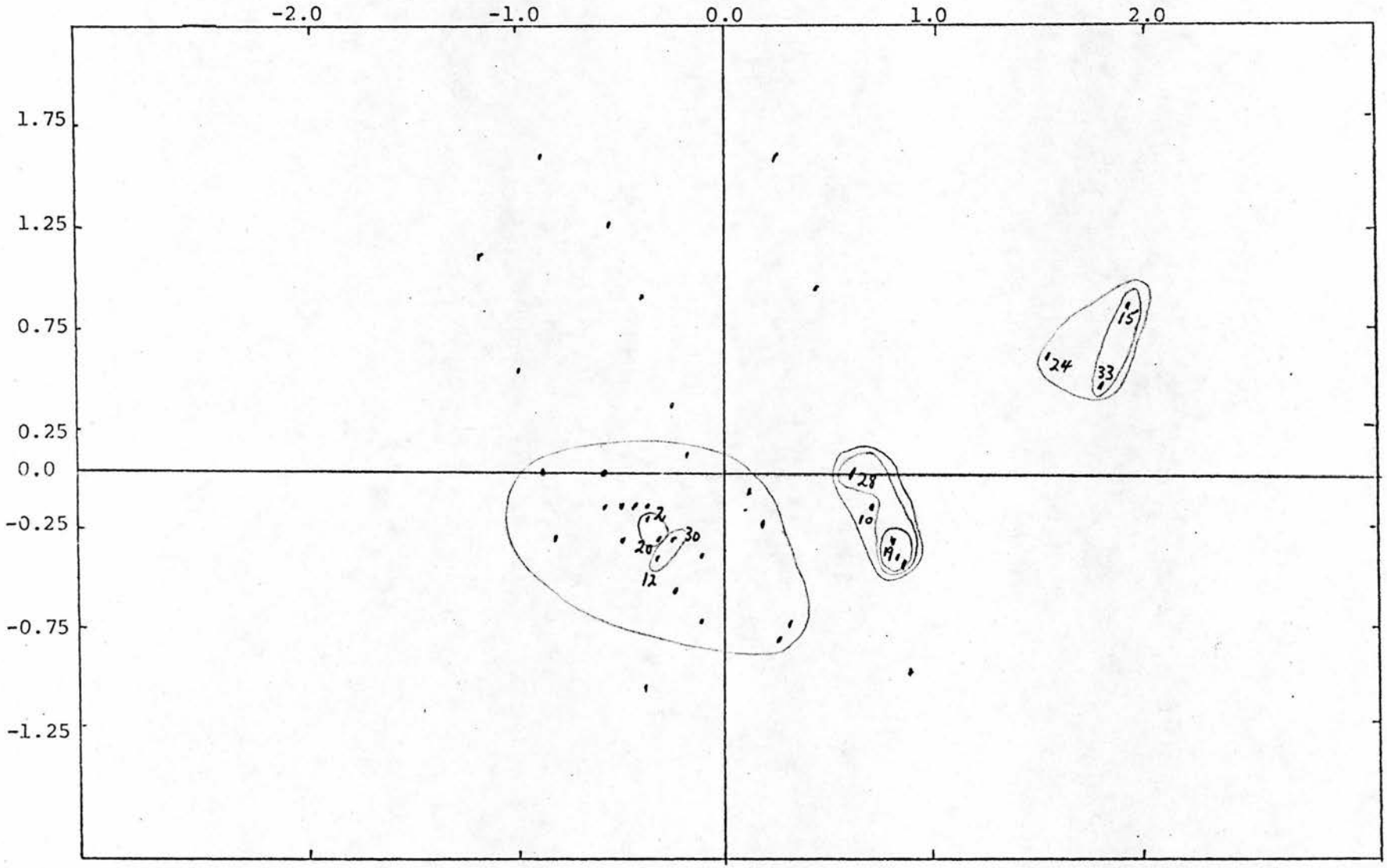


Figure 8.8 Cluster loops added to scaled configuration (Figure 8.3) -- Regular class students

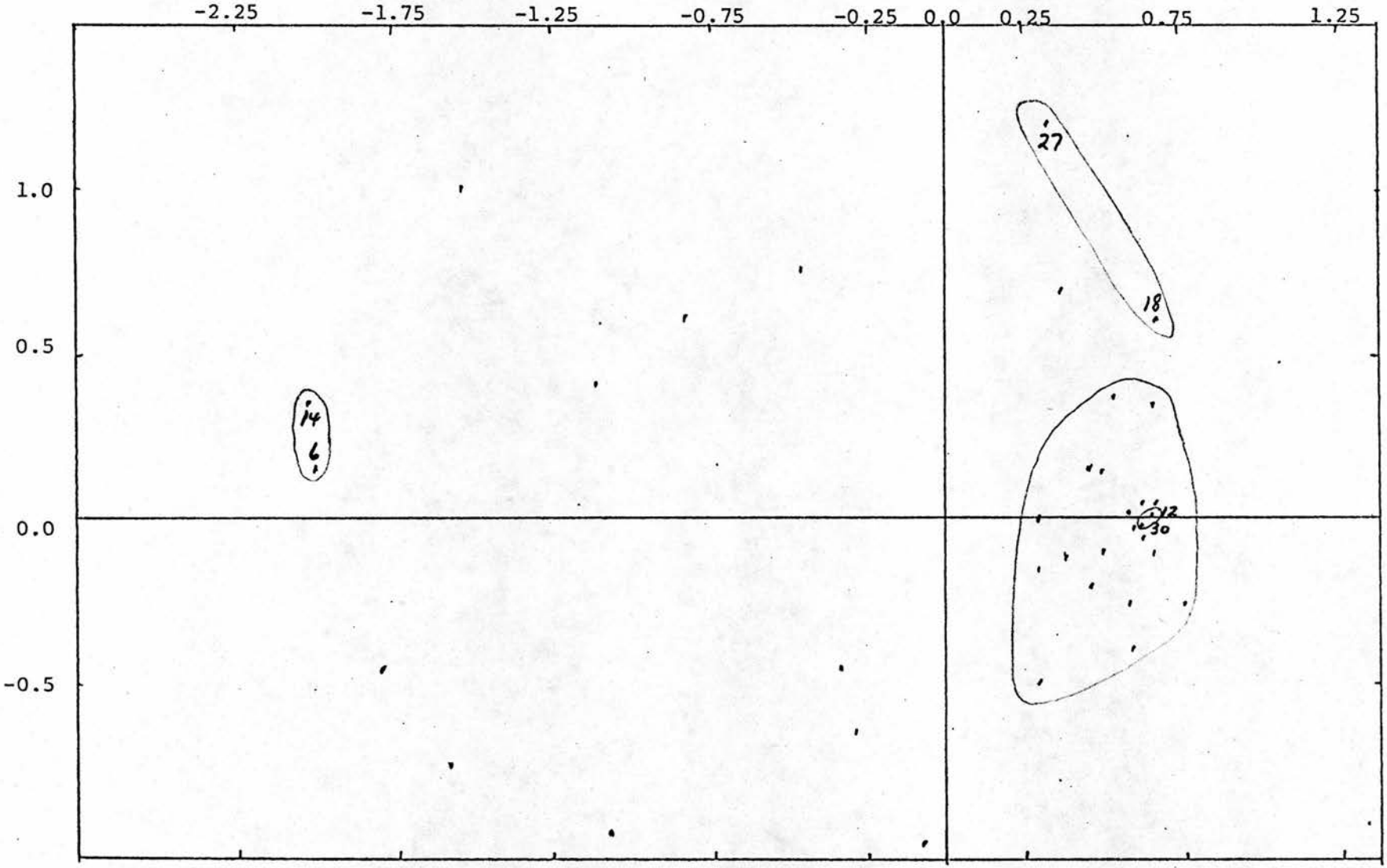


Figure 8.9 Cluster loops added to scaled configuration (Figure 8.4) -- Special class staff

4. SOCC MULTIDIMENSIONAL SCALING AND CLUSTER ANALYSIS

To analyse further the structure of the SOCC data, a multidimensional scaling analysis was performed. (In part, this was done for the possible perspective it might contribute to analysis of reliability issues concerning the CES.) The non-metric multidimensional scaling procedure employed was that developed by Guttman and Lingoes (University, of Edinburgh, 1977) for finding the smallest euclidean space for a configuration of points (since KYST couldn't handle the size of the SOCC matrix). As performed by the program MINISSA-I(M), a "coefficient of alienation" is minimized. However, the corresponding Kruskal stress figure also is computed for comparison with results from other procedures (e.g. KYST, which was applied to the CES). The two-dimensional plot of SOCC items resulting from the MINISSA application yielded a stress of .16 and is shown in Figure 8.10. The sub-scale designation is noted by a letter beside each point or cluster.

It appears that the horizontal axis in Figure 8.10 is based primarily on the frequency with which an item described a student's behaviour, ranging from low frequencies at the left end to high at the right. For example, item 79 was marked "yes" for 71% of students, item 15 by only 26%. The vertical axis separated items from the Withdrawn sub-scale at the top, Learning, Coordination and Bizarre in the middle, and Disruptive at the bottom.

The overlapping of Coordination and Bizarre with Learning items is not surprising since any students with either of these sets of items is likely to have learning problems as

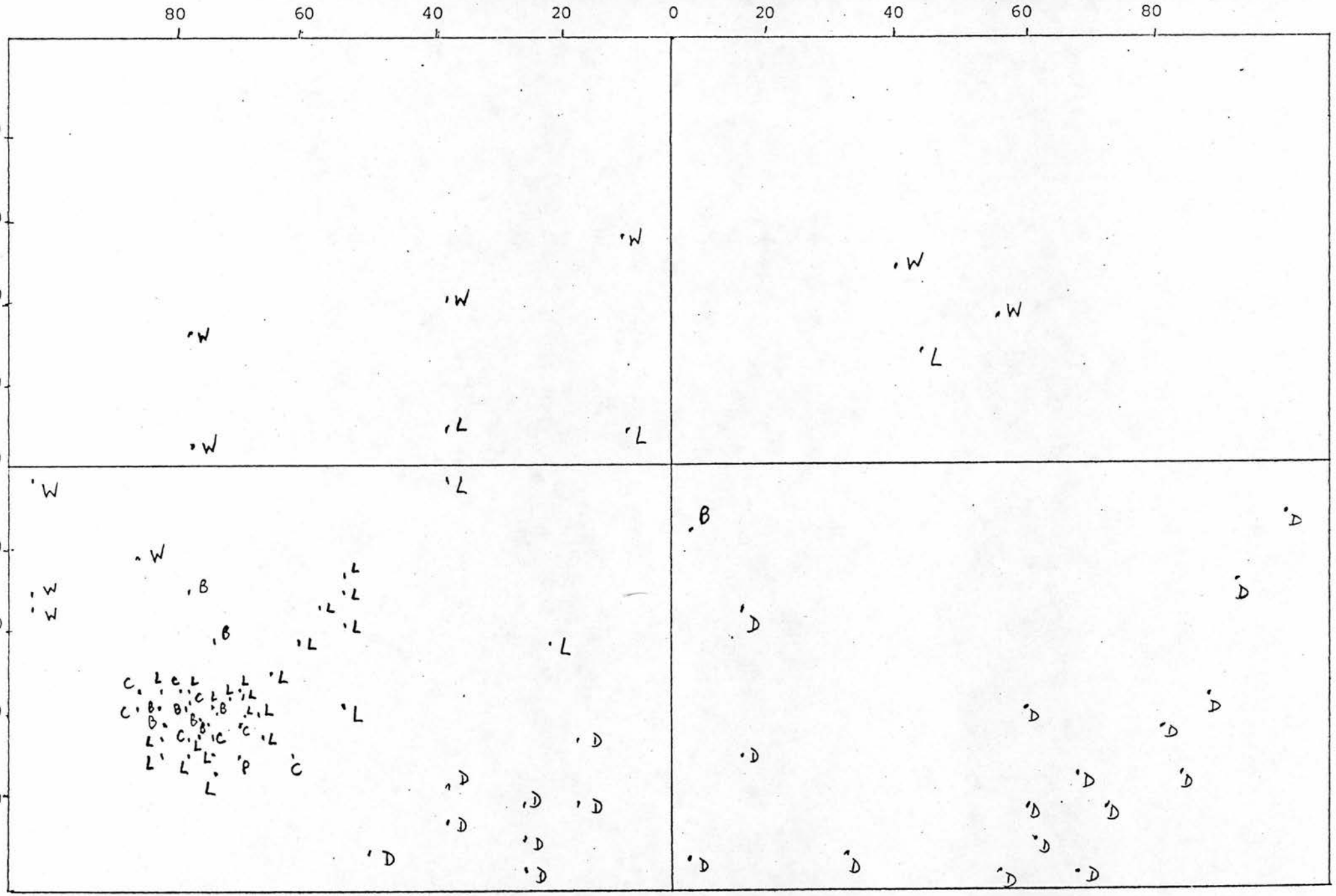


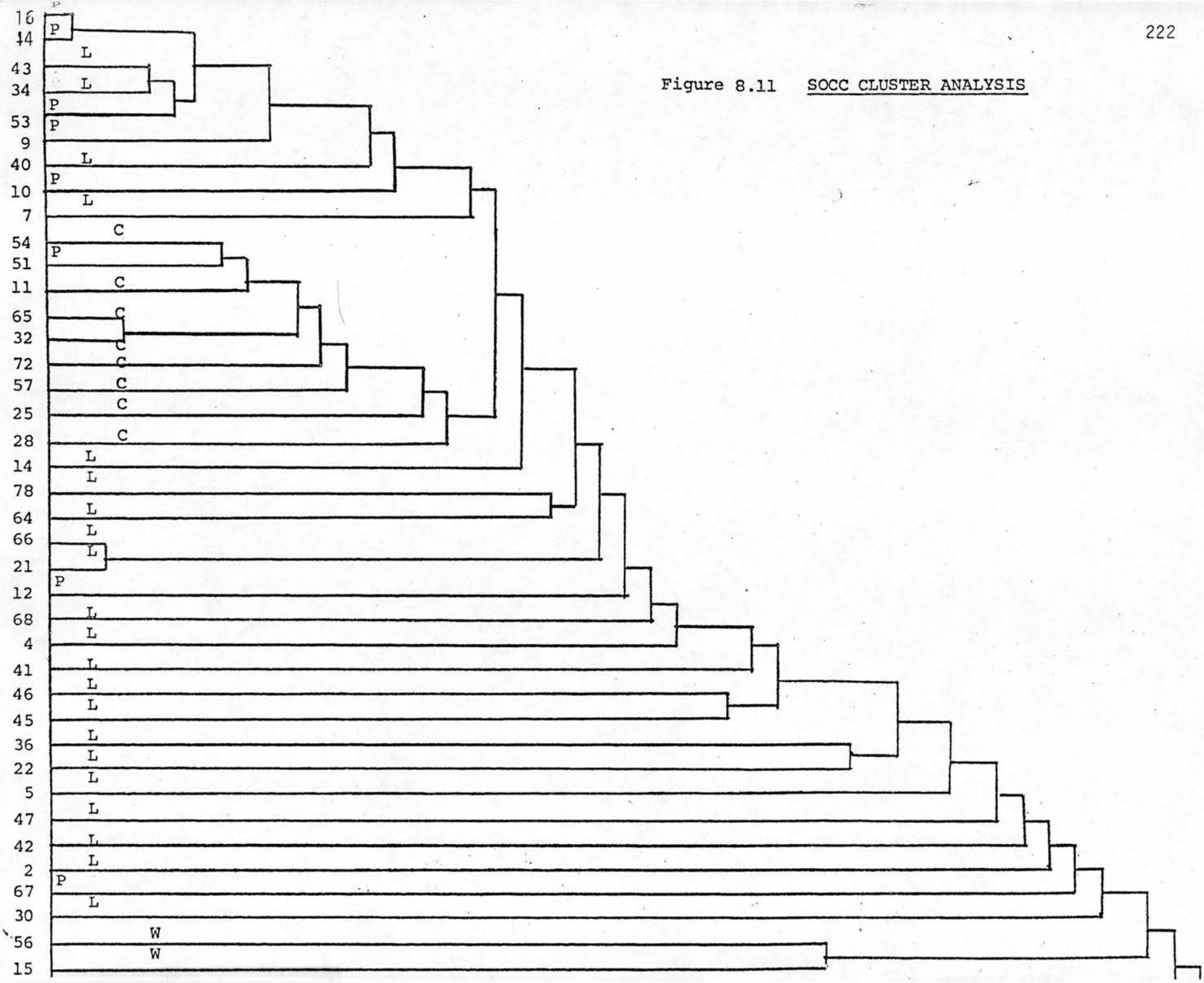
Figure 8.10 Two-dimensional configuration for scaling of SOCC items -- all staff, and all students rated.

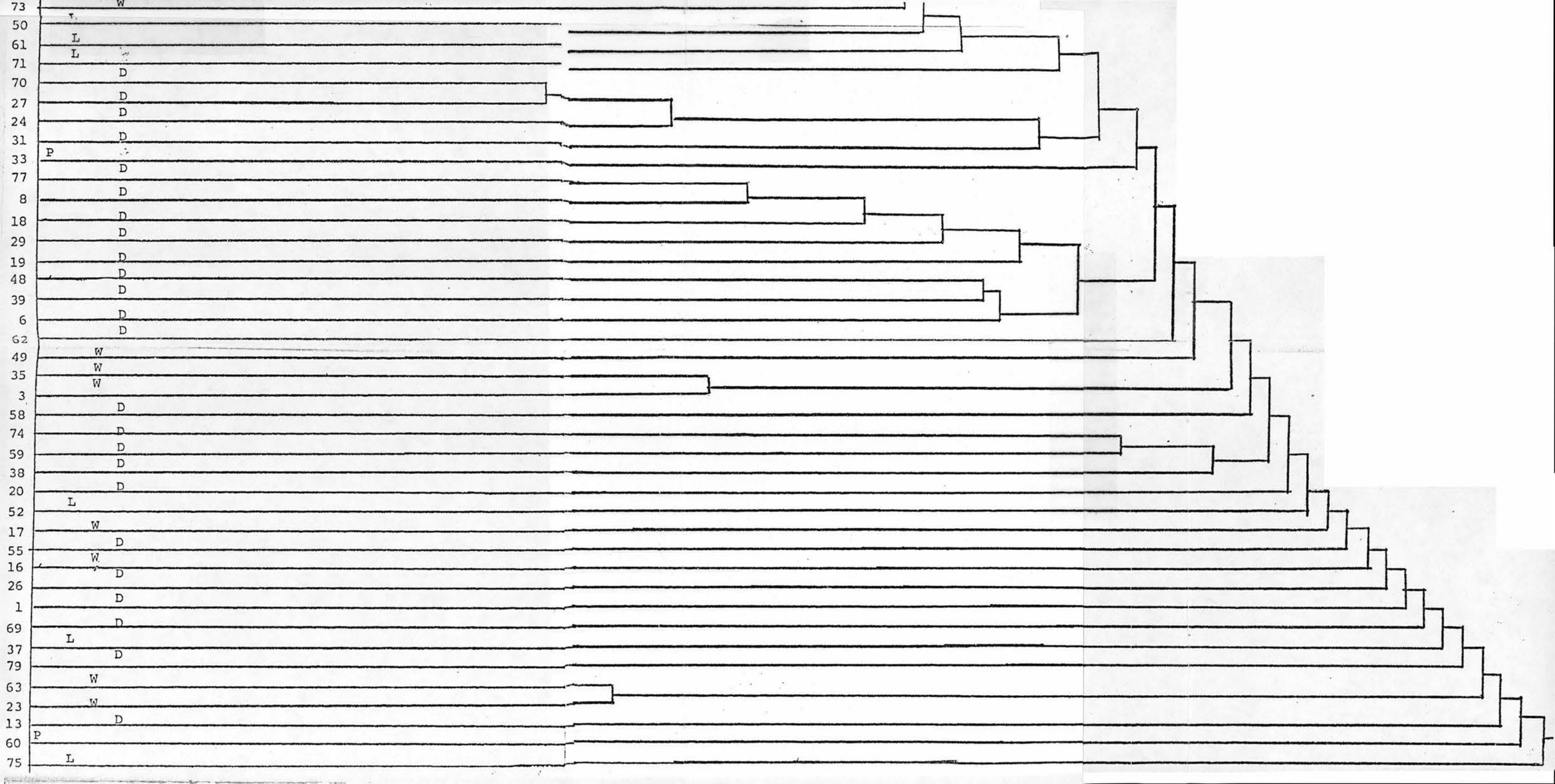
well. In comparison with a much higher proportion of students being described by Withdrawn or Disruptive sub-scale items, it is more likely that some of them will not be described by the Learning sub-scale items. Hence, the separation of Disruptive and Withdrawn items from Learning items.

To explore further the structure of SOCC items, a hierarchical cluster analysis was performed using the same procedure as for the CES. The clustering yielded the tree (dendogram) shown in Figure 8.11. It indicates that there is a relatively distinct clustering of Bizarre and Coordination items separate from the Learning items. All 8 Coordination items, plus one Bizarre item ("stumbles, falls easily, throws clumsily") form a clear cluster. Five of the ten Bizarre items cluster with four Learning items — all 9 are the least frequently recorded items of their scales. This is as it should be; Bizarre behaviours are not likely to be displayed by many of the students.

Most of the Learning scale items and Disruptive scale items cluster into separate groups, as was the case in the multidimensional scaling plot (Figure 8.10). However the Withdrawn scale items are somewhat interspersed among the Learning and Disruptive items. This is not surprising because of the substantial variation in frequencies of recorded behaviour on Withdrawn scale items. In summary, the cluster analysis depicted in Figure 8.11 reinforces the MDS of Figure 8.10, adding the important clarification of separation between Learning, Coordination and Bizarre scales. For the purposes of further analysis and hypothesis testing in the study, the

Figure 8.11 SOCC CLUSTER ANALYSIS




73 W
50
61 L
71 L
70 D
27 D
24 D
31 D
33 P
77 D
8 D
18 D
29 D
19 D
48 D
39 D
6 D
62 D
49 W
35 W
3 W
58 D
74 D
59 D
38 D
20 D
52 L
17 W
55 D
16 W
26 D
1 D
69 D
37 L
79 D
63 W
23 W
13 D
60 P
75 L

general separation of factors suggests that it is appropriate to utilize the full SOCC results.

5. DISCUSSION OF CES DIMENSIONALITY

Reviewing the multidimensional scaling and cluster analyses of CES survey data, it is evident that most of the Moos-Trickett dimension structure is not supported in the present study. Few of the nine dimensions remain intact. This result reflects the fact that several items from different dimensions have similarly high "True" responses and thus cluster together. As a consequence, reliability coefficients for the normal CES dimensions generally are very low. The SOCC analysis provides a contrast which further emphasizes the difficulties with the CES data.

Other indications of instability in the dimension pattern of Moos' climate instruments have been reported. An early report by Wilkinson (1973) was based on the Social Climate Scale (SCS), an early version of a questionnaire for use in correctional institutions which was adapted from Moos' Ward Atmosphere Scale (WAS). Using SCS data obtained from 145 staff and 143 boys at a U.S. training school for delinquents, Wilkinson conducted factor analyses separately on the staff and student correlation matrices of questionnaire items. The analyses yielded a first factor consisting of items with high factor loadings from several subscales, and accounting for 13% (staff) and 10% (boys) of the total variance in the questionnaire items. Wilkinson interpreted this factor as a Value or evaluation scale; that is, respondents were making an evaluative appraisal of the items as part of a general attitude

toward the environment rather than expressing perceptions about specific aspects of the climate.

A subsequent report (Alden, 1978) reinforces Wilkinson's conclusion, this time using the Ward Atmosphere Scale (WAS) itself. Alden intercorrelated the 10 WAS subscales and conducted a principal components analysis which yielded three factors, the first having high factor loadings on eight subscales and accounting for 50% of the variance. The second factor (14% of variance) was marked by a high loading on the anger scale; the third (10% variance) was the staff control scale. The same conclusion is drawn as in the Wilkinson study that these results indicate presence of a general evaluation factor in the WAS.

Another study, conducted in classrooms, also provides support for Wilkinson's conclusion. Manderscheid, Koenig and Wilbergard (1977) employed the Class Atmosphere Scale (CAS), adapted from Moos' Ward Atmosphere Scale, in a study of 30 elementary school classes. Principal components analysis of the resulting data yielded four factors which explained 16% of the total variance among items. The first factor was an evaluation set similar to Wilkinson's, including items from almost all subscales. The other three factors were interpreted as representing the broad groupings of dimensions which Moos has identified in his climate questionnaires: relationship, personal development, and system maintenance. The main items with high factor loadings on each of the three factors were primarily from the dimensions comprising the group. For example, Factor 4 consists primarily of items from the

relationship dimensions (e.g. Support, Affiliation, Involvement).

To test further the dimensionality of the Classroom Environment Scale, Trickett and Quinlan (1979) assembled a large data base of CES responses (229 classes including 3480 students) and conducted principal component analysis on a correlation matrix computed from the class-level data (i.e. mean scores on each item). Six factors yielded interpretable factors accounting for 51% of the total variance:

Group	Factor
System Maintenance	1 Rule Emphasis
	2 Order and Organization
Relationship	3 Friendly and easygoing teacher (support)
	4 Innovative, student oriented teaching approach
Personal Development	5 Student Competition
	6 Student Affiliation

These are similar to six of the original CES dimensions, a result not too surprising since 55% of the data came from the original standardization sample for the CES reported in Moos and Trickett (1974).

To summarize the foregoing discussion of factor analyses on responses to Moos' questionnaires, considerable variation in patterns of factors is evident. Unfortunately, none of the published reports provide adequate documentation to assess how similar the data characteristics are to those obtained in the present study. What is apparent, however, is a

lack of stability to the pattern of climate factors.

6. CONCLUSION

Returning to the particular circumstances of the CES scaling/cluster analyses reported earlier in Chapter 8, the immediate question is what groupings of items to use in the main analysis of the study. The original Moos-Trickett dimensions are only partially supported because of the number of items from various dimensions that received the same response in most classes and thus did not discriminate between climates. At the same time, apart from the large clusters of these poorly discriminating items, very few alternative groupings emerge from the data. In the absence of clear alternatives to the Moos-Trickett structure of dimensions, these will be retained for the main analysis to be reported in Chapter 9.

CHAPTER 9

ANALYSIS OF RESULTS

In Chapter 6, expected relationships were formulated between several variables included in the survey. The data on these relationships will now be examined. Of primary interest is the pattern of relationships between student perceptions of classroom climate (measured by the Classroom Environment Scale (CES) and four different staffing models (teacher-aide, teacher-child care worker, teacher-teacher, and single teacher). Unfortunately, as the psychometric analysis of the CES in Chapter 8 revealed, problems with that instrument likely will restrict and weaken the analysis of relationships with other variables. Nevertheless, the analysis in the chapter will indicate that the central findings of the study emerge intact despite the methodological limitations.

It was also suggested in Chapter 6 that a number of other variables are likely to be interacting with the climate and staffing variables. Several of these variables pertaining to the students, classroom staff and organizational aspects were included in the data collection. Their relationships to climate and staffing variables also will be examined to clarify the significance of the primary relationship being studied, over and above the influence of these other variables.

A further introductory note which should be added concerns the levels of analysis. Since the CES is designed for use on an aggregated basis (i.e. class averages, in this study),

most of the analysis will be done at this level. In testing the relationship of some student and staff variables to their CES responses, however, only individual level analysis is possible. Comparing staff characteristics and aggregated student CES ratings requires a combination of individual and class levels.

1. BASIC CES RESULTS

Average class ratings on the nine dimensions comprising the CES are shown in Table 9.1 for special class students and staff. The corresponding ratings also are shown for the small regular class sample which was included in the survey. It is readily apparent that average staff ratings (Column 3) differ substantially from special student ratings for a similar group of classes on most CES dimensions (Column 2). Statistical significance of these differences was determined by the correlated t-test for paired samples. Compared to the t-test for comparison between two group means, this test reduces the effect of class-to-class variability by pairing the staff and student ratings for each class. The SPSS procedure T-TEST was utilized (Nie, et al, 1975). The significance levels shown in Table 9.1 (Column 5) indicate for seven of the nine dimensions that special class staff and students differ significantly in their ratings. All of the differences between average staff and student ratings are in the directions of social expectation. That is, staff can be expected to perceive more Involvement, Staff Support, Order and Organization, Rule Clarity and Innovation than students. Being generally regarded as desirable characteristics of a class, there would be an understandable

Table 9.1 AVERAGE RATINGS ON CLASSROOM ENVIRONMENT SCALE FOR SPECIAL CLASS STUDENTS AND STAFF, AND REGULAR CLASS STUDENTS

DIMENSION	Regular Class Students (N=22) Classes	Special Class Students (N=118) Classes	Special Class Staff (N=113** Classes)	T-Test Regular vs. Special Students (2-tail probabilities)	T-Test Special Staff vs. Special Students
	(1)	(2)	(3)	(4)	(5)
Involvement	57.9	60.2	80.6	.56	.00 *
Affiliation	84.2	76.1	65.3	.01 *	.00 *
Staff Support	73.8	84.4	90.5	.001 *	.00 *
Task Orientation	77.6	76.1	77.0	.56	.77
Competition	66.4	66.7	34.7	.93	.00 *
Order and Organization	43.6	47.0	64.7	.44	.00 *
Rule Clarity	76.8	80.0	95.0	.19	.00 *
Staff Control	61.2	63.9	61.1	.43	.10
Innovation	68.3	67.6	73.4	.83	.02 *

* Indicates significance below .05 level
** Data not collected for staff in 5 of 118 classes -- interviewer error.

tendency for staff to make a high estimate of their presence. Students are likely to perceive greater Affiliation among themselves and more Competition than are teachers. Moos acknowledges the same point in reporting somewhat similar patterns for the CES normative sample in the CES manual (Moos and Trickett, 1974). The data also reinforce points raised in Chapter 8 (and Chapter 5) regarding the difficulties in measurement of climate perceptions among heterogeneous groups (e.g. management and staff).

While the mean ratings of staff and students differ significantly on seven of nine dimensions, correlations between those ratings on the same classrooms are worthy of note. The average class ratings for staff and students were correlated using the SPSS procedure SCATTERGRAM (Nie, et al, 1975). This procedure plots the values of the pairs of ratings for each class on a two-dimensional graph. Strength of relationship between the variables is measured by the Pearson product-moment correlation coefficient, r. Also computed is the proportion of variance of one variable which could be "explained" by the other (i.e. r-square). Table 9.2 summarizes the correlation coefficients, r-square values, and significance probabilities for the nine CES dimensions. On five dimensions the correlation is significant at the .05 level, with Staff Control showing the strongest relationship. The positive relationship indicates that high student ratings tend to accompany high staff ratings. This is illustrated by the scattergram for Staff Control reproduced as Figure 9.0.

Table 9.1 records two significant differences between

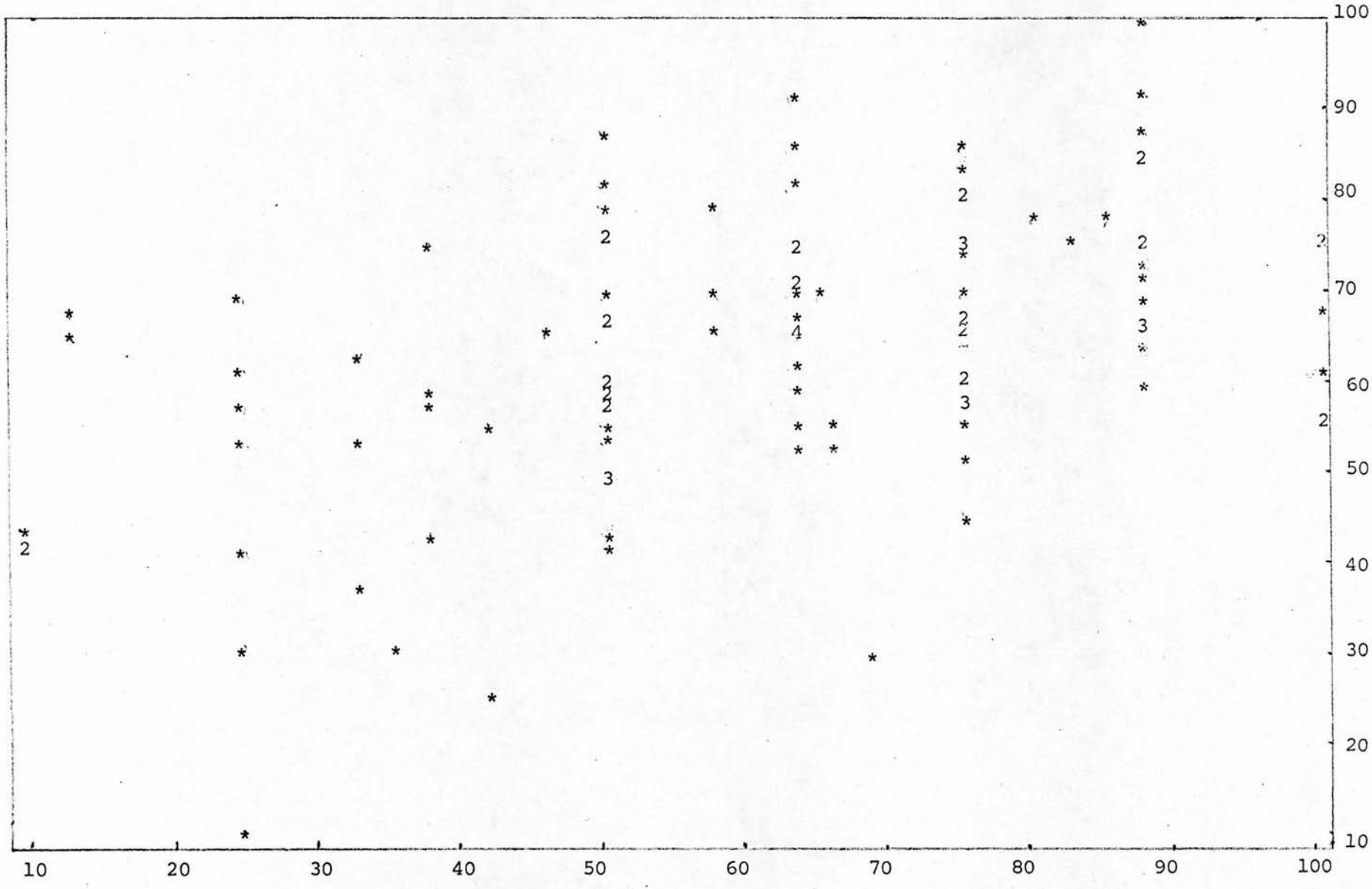


Figure 9.0 SCATTERGRAM OF RELATIONSHIP BETWEEN STUDENT AND STAFF CLASS RATINGS ON STAFF CONTROL DIMENSION OF CES

Table 9.2 SUMMARY RESULTS OF CORRELATION BETWEEN CES AVERAGE CLASS RATINGS OF SPECIAL CLASS STAFF AND STUDENTS

DIMENSION	Correlation Coefficient (Pearson's r) (N=113)	r^2	Significance Probability
Involvement	.04	.00	.36
Affiliation	.09	.01	.18
Staff Support	-.13	.02	.10
Task Orientation	.28	.08	.01 *
Competition	.17	.03	.04 *
Order and Organization	.23	.05	.01 *
Rule Clarity	.30	.09	.001 *
Staff Control	.48	.23	.000 *
Innovation	.14	.02	.07

* Indicates significance below .05 level

the typical perceptions of special class and regular class students (using the two-tailed t-test for group means in SPSS), although the latter was a very small and particular sample which could be completely unrepresentative. On the affiliation dimension, regular class ratings are higher on average; on Staff Support they are lower. Both are comparisons to be expected with special classes for children with psychosocial disorders, where interaction with peers is likely to be more difficult than interaction with adults.

Comparing ratings within columns 1, 2 and 3 of Table 9.1, rather than between columns, the average class ratings are quite high on most dimensions: Staff Support, Task Orientation, Rule Clarity, in particular. The pattern is generally similar to results from other CES surveys as indicated by Table 9.3 which converts Table 9.1 data to standard scores using norms for the CES Short Form reported in the Manual (Moos and Trickett, 1974). On most dimensions the special class ratings are somewhat higher than the norms for both staff and students, with the exceptions of Affiliation and Competition where staff ratings are below the norms. This observation suggests that the special class staff are according less recognition to the interrelationships between students than do students themselves.

Not shown in Table 9.1 (see Table C.1, in Appendix C), are the standard deviation, minimum and maximum ratings for each dimension, also the kurtosis and skewness coefficients (computed with SPSS procedure CONDESCRIPTIVE). Taken together, these data indicate that the class ratings on most dimensions approximate a normal distribution, meaning that most ratings cluster around

Table 9.3 CONVERSION OF AVERAGE CES RATINGS TO STANDARD SCORES* FOR REGULAR CLASS STUDENTS, SPECIAL CLASS STUDENTS AND STAFF

DIMENSION	Regular Class Students	Special Class Students	Special Class Staff
Involvement	54	55	53
Affiliation	64	57	48
Staff Support	55	60	55
Task Orientation	56	54	51
Competition	67	67	45
Order and Organization	46	48	49
Rule Clarity	58	59	55
Staff Control	59	60	58
Innovation	58	58	54

* Using norms for CES Short Form (Moos and Trickett, 1974)

the average but a number are at the low and high extremes of the range. These very high and low ratings will be examined more closely later in the analysis.

2. CES RESULTS BY STAFFING MODEL

In Chapter 6, the expected pattern of relationships between student responses to the CES and the four different types of staffing models was formulated. The pattern was based on four aspects of the staffing models employed in special classes: number of staff, different roles, different approaches to roles, and relative status of staff groups. Table 9.4 provides the pattern resulting from the survey for comparison with the expected pattern summarized in Table 6.4.

Both tables are arranged with the staffing model ranking highest on the largest number of dimensions placed in the first column across to the lowest ranking model in the fourth column. Comparing the two tables shows that the teacher-teacher and teacher-child care worker ranks are reversed: teacher-teacher was expected to rank third but ranks highest, teacher-child care worker the opposite. In both tables, teacher-aide classes rank second and single-teacher classes rank lowest.

Statistical significance of the differences in average ratings for the four staffing models was tested by analysis of variance using the SPSS procedure ANOVA (Nie, et al, 1975). This procedure provides an analysis of variations (sum of squares) from the mean rating of the dependent variable in relation to independent variable(s) as a way of assessing their

Table 9.4 LEVELS AND RANKING OF CES AVERAGE CLASS RATINGS BY SPECIAL STUDENTS FOR FOUR STAFFING MODELS

	Staffing Models				
	(1)	(2)	(3)	(4)	(5)
DIMENSION	Teacher-Teacher (N=13)	Teacher-Aide (N=41)	Teacher-Child Care Worker (N=50)	Single Teacher (N=14)	Anova Probability Level (%)
Involvement	69.2(1)	58.3(3)	60.7(2)	56.2(4)	.16
Affiliation	80.5(1)	74.1(4)	76.5(2)	76.5(2)	.52
Staff Support	87.4(1)	85.2(2)	83.2(4)	83.3(3)	.62
Task Orientation	82.0(1)	77.9(2)	73.7(4)	74.3(3)	.06
Competition	71.2(1)	68.8(2)	65.1(3)	62.0(4)	.25
Order and Organization	59.3(1)	46.7(2)	44.9(3)	43.8(4)	.09
Rule Clarity	82.8(1)	81.2(2)	79.6(3)	75.5(4)	.24
Staff Control	68.5(2)	68.9(1)	61.6(3)	53.6(4)	.01*
Innovation	67.7(3)	66.2(4)	68.1(2)	69.5(1)	.85
Most Common Rank	(1)	(2)	(3)	(4)	

* Indicates significance below .05 level

effects, separately and jointly, on the dependent variable. Significance of the variations is determined by the F-test of variance ratios, and the proportion of variance attributable to each independent variable is determined. The anova probability levels in column 5 of Table 9.4 indicate that differences on the Staff Control dimension are significant at the 1% level; on Task Orientation and Order and Organization the differences are significant at the 10% level. Differences on the other dimensions are not great enough to be significant, mainly because of the closeness between average ratings for teacher-aide, teacher-child care worker and single-teacher classes.

Summarizing the comparison between Table 9.4 and Table 6.4, the differences between staffing models in the survey differ in major ways from the expected pattern: teacher-teacher classes generally have higher ratings on most dimensions, and many dimensions do not yield significant differences in ratings for the staffing models. These variations from the expected pattern call for a reexamination of the basis for the formulation developed in Chapter 6. Can the variations in CES patterns be accounted for using the four aspects of staffing models discussed in that earlier chapter?

Number of staff was the first aspect introduced in Chapter 6 (see Table 6.1). Its importance was expected to be due to the different activity opportunities possible with more than one staff person in the classroom. If the effect of number of staff could be isolated (see Table 6.1), ratings on three dimensions (Involvement, Order and Organization, and Innovation)

were expected to be higher in classes with more staff, and two dimensions were expected to have lower ratings (Rule Clarity and Staff Control). Four of the five differences in Table 9.4 are as expected in Table 6.1, but only one — Staff Control -- is statistically significant at the 5% level. Contrary to expectation, the ratings on Innovation only show small differences between different staffing models. Similarly for Affiliation and Staff Support, the average ratings are close together; however, number of staff was not expected to affect these two dimensions. Finally, on Task Orientation and Competition the average ratings for single teacher classes are at the lower end of the range. Not much significance should be attached to these two findings for the number of staff aspect. On Competition, the differences are not statistically significant, and on Task Orientation, while the overall pattern of differences is close to significance at the 5% level, the single teacher rating is not the lowest.

In sum, the results can be interpreted as consistent with the expected pattern related to number of staff on at least four of the nine dimensions. An additional two were consistent but not at significant levels of difference, and two additional dimensions were inconsistent but the differences were not statistically significant. Only Innovation deviated markedly from the expected pattern.

Turning next to the different roles aspect, considerable contrast is apparent between Table 9.4 and the expected pattern of Table 6.2. It had been argued in Chapter 6 that of the two different roles introduced by the staffing

models of Chapter 4 (i.e. ancillary role of aides and activity role of CCW's) the child care worker role was the more important one in this analysis. (It has greater scope and expectation of implementation.) Accordingly, Table 6.2 expected the T-CCW model to have higher ratings on some dimensions (Involvement, Order and Organization, Innovation) than T-T or T-A ratings, and on two dimensions to have lower ratings (Rule Clarity, Staff Control).

Instead, Table 9.4 shows that the teacher-teacher average class ratings are the distinctive ones being higher than teacher-child care worker (and teacher-aide as well as single teacher) on seven of the nine dimensions (but only significantly so on Task Orientation and Order and Organization). The only support (in the data) for the child care activity role is on the Rule Clarity and Staff Control dimensions. As expected, T-CCW ratings on these two dimensions are lower than for T-A and T-T classes, although significantly so only on Staff Control.

The third aspect of different staffing models -- different role approaches — was summarized in Table 6.3. In the case of Table 6.3, the different role approaches of aides and child care workers were expected to yield ratings on some dimensions which would be higher for both T-CCW and T-A classes than for T-T (Involvement, Staff Support, Order and Organization, and Innovation). These higher ratings are expected to result from the more supportive (as opposed to instrumental) orientation which Chapter 4 suggests characterizes CCW or aide approaches to their roles. On three dimensions, lower ratings were expected for T-CCW and T-A classes than for

T-T: Task Orientation, Rule Clarity, and Staff Control. Table 9.4 shows that T-T class average ratings are higher on two of these three dimensions as expected, although the fact that the ratings also are highest on five other dimensions suggests the presence of a more general factor affecting several dimensions.

The fourth aspect of staffing models identified in Chapter 6 is the relative status of teachers, aides and child care workers. There it was suggested that teachers as a group have higher status relative to the other two groups that comprise classroom staffing models. Accordingly, an effect opposite to the direction of the other three aspects generally is expected since aide and child care effects are the main element of the different role and different approach aspects.

The opposing effect is not expected to be completely offsetting, but only dampening. Hence, it was suggested in Chapter 6 that the aggregate ratings in Table 6.4 would derive more from the patterns shown in Tables 6.1, 6.2 and 6.3 than the dampening influence of the relative status aspect. The survey results shown in Table 9.4 provide little support for the expected significance of different (i.e. aide and child care) roles or different role approaches. Lower relative status may be part of the explanation since the results are compatible with that interpretation.

Before interpreting more fully the comparison of actual to expected patterns of relationship between classroom climate ratings and staffing models, results in relation to several other variables should first be checked. As noted in Chapter 6, some of the student or staff characteristics or organizational

level variables are likely to be interacting with the staffing variable, potentially confounding the climate-staffing analysis. Climate rating results will now be analysed in relation to the other variables also included in the survey. Student characteristics are considered first, followed by organizational variables, and, finally, staff characteristics.

3. COMPARISON WITH STUDENT VARIABLES

In addition to student responses on the CES, student age, sex and length of time enrolled in the class were recorded. As well, staff completed behaviour checklists (SOCC) on approximately 60% of students in the classes surveyed. The salience of each of these four features of the student sample was discussed in Chapter 6. The student CES ratings are related to the four features in Table 9.5 and Tables C.3 to C.7 in Appendix C. The results for student age are examined first since they yielded the most significant relationships with staffing models.

a) Student Age

Table 9.5 shows average special student ratings on each CES dimension for three age groups. These have been computed by taking the average rating in each class and grouping them by the average age of students in the class. (Usually, most students in a class were the same age.) Having the age-related results in this form at the class level facilitates comparison with other analyses at the class level. Other student variables (sex, time in class, behaviour ratings) cannot be similarly analysed because of the variation within classses. For comparison

Table 9.5 CES AVERAGE CLASS RATINGS BY SPECIAL STUDENTS FOR THREE AGE GROUPS

DIMENSION	----AGE GROUPS---- 10 and under (N=46)	Over 10 to 12 (N=33)	Over 12 (N=39)	Anova Probability Level (%)
Involvement	66.6	58.9	53.9	.001 *
Affiliation	79.8	75.6	72.0	.02 *
Staff Support	87.0	80.8	84.2	.07
Task Orientation	78.1	80.3	70.3	.000 *
Competition	72.0	68.0	59.3	.000 *
Order and Organization	54.4	43.1	41.5	.01 *
Rule Clarity	83.1	79.9	76.6	.02 *
Staff Control	68.5	69.2	54.1	.000 *
Innovation	68.1	68.1	66.4	.83

* Indicates significance below .05 level

with these variables, age-related results at the individual level are shown in Appendix C, Table C.2.

With only three partial exceptions, the ratings shown in Table 9.5 vary from highest for the youngest age group to lowest for the oldest. These differences between age groups are significant at the .05 level (analysis of variance) on seven of the nine dimensions. They suggest that younger students tend to rate classroom climates more in the socially expected direction. At the same time, however, the staff ratings shown in Table 9.6 also are generally higher in classes of younger students. This partial similarity of staff and student perceptions suggests that response to social expectation does not entirely explain the age-related variations in ratings.

Significant as the pattern of ratings by age may be in itself, it is of less interest here if there is no interacting effect with the staffing variable. For example, the same age distribution in all four staffing models would eliminate the age factor. In fact, as Table 9.7 shows, there is a relatively higher concentration of younger students in teacher-teacher classes. The higher average ratings in those classes thus are likely attributable in large part to the age variable rather than the staffing variable.

b) Student Sex

Average CES ratings by male and female students in special classes are shown in Table C.3 of Appendix C. Note that average male ratings are higher on all dimensions, although the difference only is significant on Staff Control. By itself, this difference on Staff Control fits with a general assumption

Table 9.6 CES AVERAGE CLASS RATINGS BY SPECIAL STAFF FOR THREE STUDENT AGE GROUPS

DIMENSION	----AGE GROUPS---- 10 and under (N=45)	Over 10 to 12 (N=32)	Over 12 (N=36)	Anova Probability Level (%)
Involvement	85.0	77.6	77.9	.05 *
Affiliation	69.5	62.8	63.4	.42
Staff Support	89.6	90.6	91.6	.91
Task Orientation	79.4	76.7	74.2	.81
Competition	33.7	36.1	33.8	.90
Order and Organization	71.4	58.9	61.5	.12
Rule Clarity	96.4	97.5	90.9	.01 *
Staff Control	65.1	69.4	48.8	.001 *
Innovation	69.7	72.5	78.8	.52

* Indicates significance below .05 level

Table 9.7 DISTRIBUTION OF SPECIAL CLASS STUDENTS BY AGE GROUP AND STAFFING MODEL

Staffing Model	----AGE GROUPS---- 10 and Under (N=333)	Over 10 to 12 (N=158)	Over 12 (N=260)	Total
Teacher-Aide (N=254)	52.3%	26.8%	20.9%	100%
Teacher-Child Care (N=324)	27.5	22.8	49.7	100
Teacher-Teacher (N=117)	74.3	4.3	21.4	100
Single Teacher (N=56)	42.9	19.6	37.5	100
AVERAGE	44.4%	21.0%	34.6%	100%

Chi-square = 109.6 Significance probability = .000

that boys are likely to perceive, if not actually experience, greater control being applied in the classroom. When the differences on all dimensions are in the same direction, however, it suggests other interpretations should be sought.

For example, the patterns of average ratings by both staffing models and student age also were in the same direction for most dimensions. Crosstabulations for these two variables with student sex are in Tables C.4 and C.5. As Table C.4 shows, there are higher proportions of boys at the younger ages. Similarly, the teacher-teacher column in Table C.5 has a higher proportion of male students than the other staffing tyupes. Recalling from Table 9.4 that average ratings by students in teacher-teacher classes are higher on 7 of 9 dimensions, the differences in average ratings between male and female students are not likely of much significance.

c) Length of Time in Class

Another student variable included in the survey was the length of time enrolled in the special class. Teachers provided this information in the form of months since entry into the class. However, the responses were grouped for analysis purposes into four categories:

1. Up to one month
2. More than one month but after start of school year
3. Since start of school year (September)
4. Prior to start of current school year

The average ratings on each CES dimension are shown in Table C.6.

Unlike the preceding patterns for student age and sex

which are general across most dimensions, the pattern for time in class separates into three groups of dimensions. On Involvement, Order and Organization, and Innovation, the highest average rating is by students in their classes less than a month. Affiliation, Rule Clarity and Staff Control are rated lowest by the same group, while being rated highest by the longest enrolled group. For the other three dimensions (Staff Support, Staff Orientation and Competition), the longest enrolled group has the highest rating again, but the less than a month group is not the lowest. In total, there is little to make of the overall pattern with only three dimensions showing significant differences, one from each of the three clusters just described: Involvement, Competition and Staff Control.

d) Behaviour Ratings

Since the survey was conducted in classes for children with psychosocial disorders, a relevant possibility to test is that of relationship between behaviours and any other variables, particularly climate perceptions. In Chapter 6, it was suggested that no significant patterns should be expected between climate ratings (CES) and behaviour ratings (SOCC). That assumption was made primarily in the absence of any evidence to the contrary.

Since both the CES and SOCC ratings are continuous data (rather than discrete categories such as time in class), multiple linear regression procedures can be applied to the analysis of relationships. Essentially, regression analysis determines an equation for "best" determining values of a dependent variable based on a set of independent variables. The

SPSS procedure REGRESSION was used, treating each CES dimension as a dependent variable and the SOCC factor ratings as the independent variables. The resulting regression output is summarized in Table C.7.

Table C.7 shows the order in which SOCC factors entered the regression equation (according to the decreasing amount of variance explained by a factor). The most common order was:

1. Coordination
2. Withdrawn
3. Bizarre
4. Disruptive
5. Learning

(In some cases only 3 or 4 factors were entered into the equation before lower limits of significance were reached. SPSS uses a default limit of .01 for the F ratio.) Apart from the Order and Organization dimension on which 5% of the variance can be explained by SOCC factors, there are very limited relationships between the CES and SOCC. Even the Order and Organization relationship does not merit further use in the analysis of CES results, taking, as it does, five variables to account for 5% of the variance.

4. COMPARISON WITH ORGANIZATIONAL VARIABLES

Four organizational variables were included in the survey, three being class characteristics and the fourth the status of the school board (public or separate). None were expected in Chapter 6 to correlate significantly with students' climate ratings. It was likely, however, that these four

characteristics would not be evenly distributed across the sample staffing model groups and thus might have a partially confounding interaction with the staffing variable.

a) School Board Status

As discussed in Chapter 3, apart from a small number of private schools, school boards in Ontario are distinguished on religious grounds: public and separate (Roman Catholic). The average special class student ratings on each CES dimension for the two types of school boards are shown in Table C.8. On seven of the nine dimensions separate school class ratings are higher, with two of the seven differences significant at the .05 level or better: Affiliation and Task Orientation. Only for Staff Control and Innovation were public school average ratings higher than in separate school classes, but only slightly higher.

The special class staff ratings (Table C.9) form a pattern similar to the student pattern, with only one dimension (Involvement) showing a significant difference between public and separate boards. As expected, it appears that school board status need not be retained as significantly interacting with the staffing variable.

b) Classroom Location

All classes operated solely by school boards were located in school buildings. However, a number of the agreement classes were located at treatment centres or other buildings not at a centre or school. Examples of other locations for classrooms are a converted farmhouse, a church, an office building. Almost all the classes in other locations are operated as agreement classes and staffed with the teacher-child

care worker model.

The average student ratings for the classes grouped by location are shown in Table C.10. On only two dimensions are the differences between ratings statistically significant at the .05 level, and overall it is difficult to interpret the pattern of ratings. There is a tendency for the school located classes to have higher ratings but not consistently so. The staff ratings are similarly mixed (Table C.11).

c) Agreement Status

Average student ratings are separated in Table C.12 between classes run solely by school boards and classes operated as agreements between boards and treatment centres. The pattern is a clear one of agreement class ratings being lower on every dimension, although only significantly on Competition and Staff Control (at 1% level). This pattern is likely to be related to the patterns for staffing models (Table 9.4) and student age (Table 9.5) since the younger and teacher-teacher classes are a higher proportion of the non-agreement group and both groups report higher ratings on most dimensions. In contrast, staff ratings on seven of nine dimensions are higher in agreement classes (Table C.13), but none of the differences are close to significant levels.

d) Class Size

There was some variation in the number of students surveyed in the classes (Table C.14), but two-thirds of the classes were evenly spread across the size range of 4 to 7 students. Table C.15 shows the average ratings for roughly equal groupings of the larger and smaller classes (up to 5

compared to over 5 students). The smaller classes have lower ratings on every dimension, although only Competition shows a significant difference (.05 level). It is not surprising that students would perceive less competition in smaller classes. However, teacher-teacher classes are exclusively in the larger class group while single teacher classes are exclusively in the smaller class group. This factor probably contributed to the significance of the differences in Competition ratings. None of the average staff ratings were significantly different between the groups of larger and smaller classes (Table C.16).

5. CES AND STAFF CHARACTERISTICS

In addition to student and organizational characteristics, a number of staff characteristics were included in the data collection. When these variables were introduced in Chapter 6, it was suggested that there might be some significant relationships with climate ratings. This possibility will now be examined. Average student ratings in relation to each staff variable for each CES dimension are shown in Tables C.17 to C.22 in Appendix C, in the following sequence: staff sex, education, type of teaching certificate, duration of regular teaching, duration of special teaching, and extent of colleague contact. The pattern of statistical significance of relationships between these six variables and climate ratings is summarized in Table 9.8 (using anova probability levels).

It is evident from Table 9.8 that there are very few significant relationships. Four of the variables (education, certificate, duration of special teaching and colleague contact)

Table 9.8 SUMMARY OF SIGNIFICANT ANALYSIS OF VARIANCE PROBABILITIES FOR STAFFING VARIABLES IN RELATION TO CES DIMENSIONS

	Staff Variables					
DIMENSION	Staff Sex	General Education	Teaching Certificate	Regular Teaching Duration	Special Teaching Duration	Colleague Contact
Competition	.02	NS	NS	NS	NS	NS
Staff Control	.01	NS	NS	NS	NS	NS
Innovation	NS	NS	NS	.03	NS	NS

All probabilities on the other six CES dimensions not included here were not significant (NS). See Tables C.17 to C.22 for details.

yield no significant relationships on any CES dimensions. For the other two variables (staff sex and duration of regular teaching) there are significant patterns on two dimensions each. In the case of CES ratings in relation to staff sex, students' average class ratings are higher on every dimension when at least one staff person in the class is female. The difference only reaches significance, however, on the Competition and Staff Control dimensions.

Table C.20 shows that the pattern of climate ratings in relation to duration of regular teaching varies across the dimensions. Generally, the average ratings where teachers have up to one year's regular teaching experience are separable from the ratings for teachers with more experience. On five dimensions, the up-to-one-year rating is lowest; on the four dimensions the up-to-one-year ratings are the highest (but only the Innovation dimension shows a significant difference). While these patterns are interesting, it is not clear what interpretation to apply. Moreover, less than 10% of the teachers were in the up-to-one-year category so the impact on the overall results will be slight.

Tables C.17 to C.22 relate staff variables to student ratings on the CES. Staff ratings are shown in Tables C.23 to C.28 with significant relationships summarized in Table 9.9. Comparing the two sets of tables indicates considerable similarity in the sense that there are few significant relationships with staff variables for both staff and student CES ratings.

Table 9.9 SUMMARY OF SIGNIFICANT ANALYSIS OF VARIANCE PROBABILITIES FOR STAFFING VARIABLES IN RELATION TO STAFF CES RATINGS

	Staff Variables					
DIMENSION	Staff Sex	General Education	Teaching Certificate	Regular Teaching Duration	Special Teaching Duration	Colleague Contact
Affiliation	.04	NS	NS	NS	NS	NS
Staff Support	NS	.04	NS	NS	NS	NS
Order and Organization	NS	NS	NS	NS	NS	NS
Staff Control	NS	NS	NS	NS	NS	NS
Innovation	NS	NS	NS	.04	.03	NS

All probabilities on the other four CES dimensions not included here were not significant (NS).
See Tables C.23 to C.28 for details.

6. COMBINED EFFECTS OF VARIABLES

Having examined the relationships between student, staff, organizational variables and climate ratings, interrelationships with staffing model can be examined again to refine the analysis of staffing/climate rating patterns. The preceding exploration of interrelationships between variables suggests that the analysis can now be narrowed to the variables and dimensions which have more significant patterns. In terms of variables, the following appear to merit further analysis in relation to CES climate ratings: staffing model and student age. The CES dimensions to be retained are:

1. Involvement
2. Task Orientation
3. Competition
4. Order and Organization
5. Staff Control

Table 9.10 shows the combined relationship of student age and staffing model with student climate ratings using two-way analysis of variance. When staffing model has been entered into the analysis after student age, only the relationship between climate ratings and Staff Control is below the .05 significance level. The total variance explained is less than the total explained separately by the age or staffing variables because of the interaction between the two. On all five dimensions, student age accounts for substantially more variance than does staffing model. In sum, the significance of the staffing/climate relationship is reduced to 12% of the variance on only one of nine CES dimensions.

Table 9.10 COMBINED ANOVA BY STUDENT AGE AND STAFFING MODEL FOR CES DIMENSIONS SHOWING SIGNIFICANT RELATIONSHIPS

	Anova Probabilities			Variance Explained		
DIMENSION	Student Age	Staff-ing	Inter-action	Both Age & Staff-ing	Only Staff-ing	Only Age
Involvement	.001	.17	.09	.15	.04	.14
Affiliation	.02	.28	.08	.10	.02	.07
Task Orientation	.000	.18	.51	.18	.06	.14
Competition	.000	.78	.09	.15	.04	.14
Order and Organization	.01	.48	.76	.12	.06	.11
Rule Clarity	.02	.51	.67	.09	.04	.07
Staff Control	.000	.04*	.39	.28	.12	.22

All probabilities on the other two CES dimensions not included here were not significant at .05 level

To explore the possibility of relationships between combinations of climate ratings and staffing model, cluster analysis was applied to student average class ratings on all nine CES dimensions. In comparison with the cluster analysis conducted in Chapter 8 on responses to the individual CES items, an analysis including all the dimensions requires a multivariate assessment of relatedness between the class ratings. The CLUSTER procedure in Statistical Analysis System (SAS) (1982) was used to perform the required multivariate clustering. The SAS procedure provides a hierarchical clustering which, as explained in Chapter 8, progressively takes the two items that are closest together to form clusters. A total of 11 clusters were identified in the clustering, but many consisted of only a few classes. At the level of four clusters the numbers of classes per cluster are 58, 26, 17, and 17 respectively. The first cluster is unduly large but does not subcluster substantially until the level of nine clusters, by which stage the fourth cluster fragments into small subclusters. Even so, only one of the three subclusters of the first cluster differs markedly from the aggregate pattern of that cluster. Accordingly, the intepretation of the four main clusters is presented with one subcluster from the largest of the four also being highlighted.

Figures 9.1 and 9.2 display the patterns of the clusters as average cluster ratings for each dimension in the form of line charts, one line for each cluster. The first cluster (N=58) could be termed the "Average Cluster" with the average ratings being very similar to the total sample ratings.

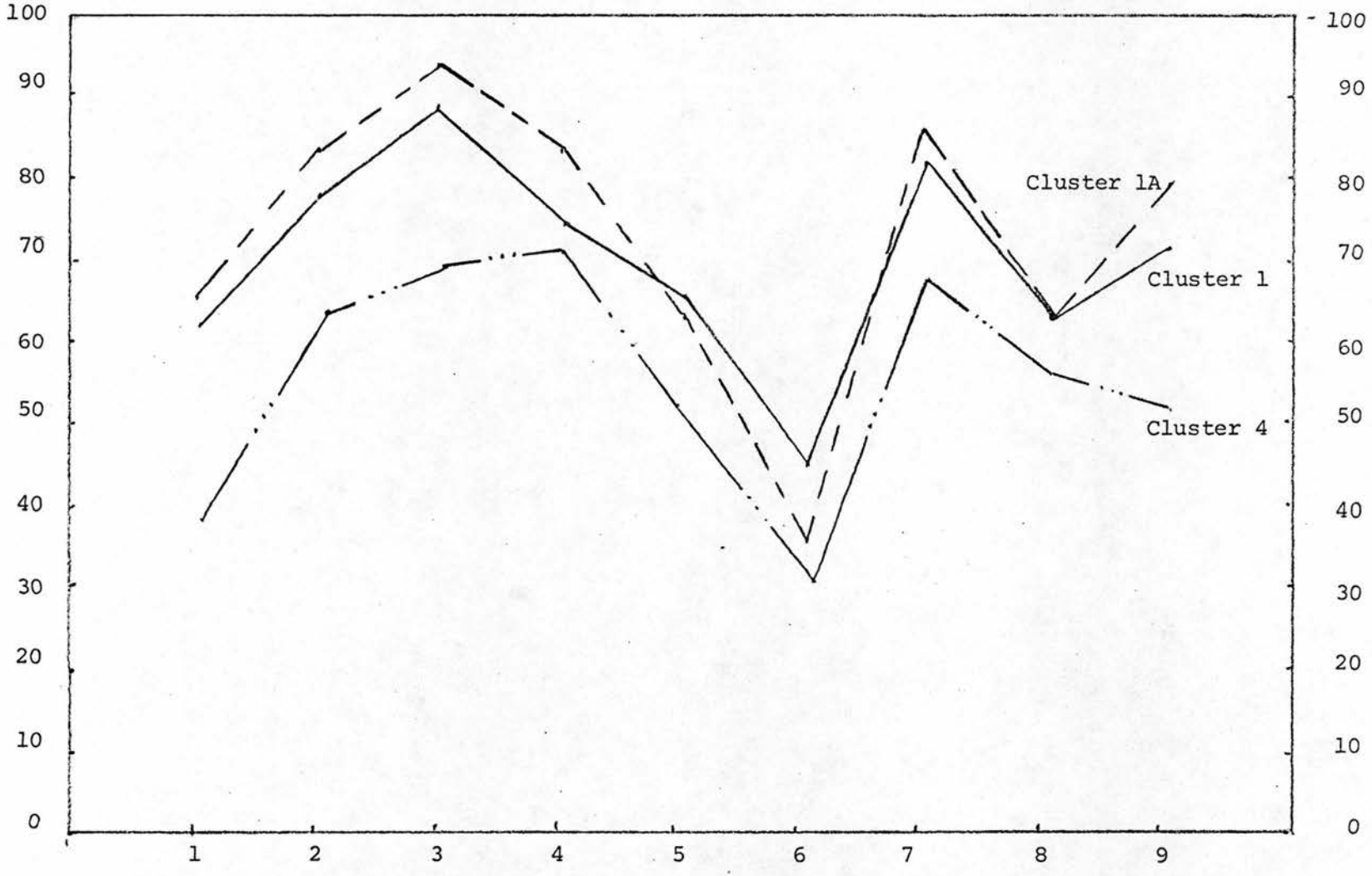


Figure 9.1 AVERAGE RATINGS ON CES DIMENSIONS BY SPECIAL CLASS STUDENTS FOR CLUSTERS 1 AND 4, AND SUBCLUSTER 1A

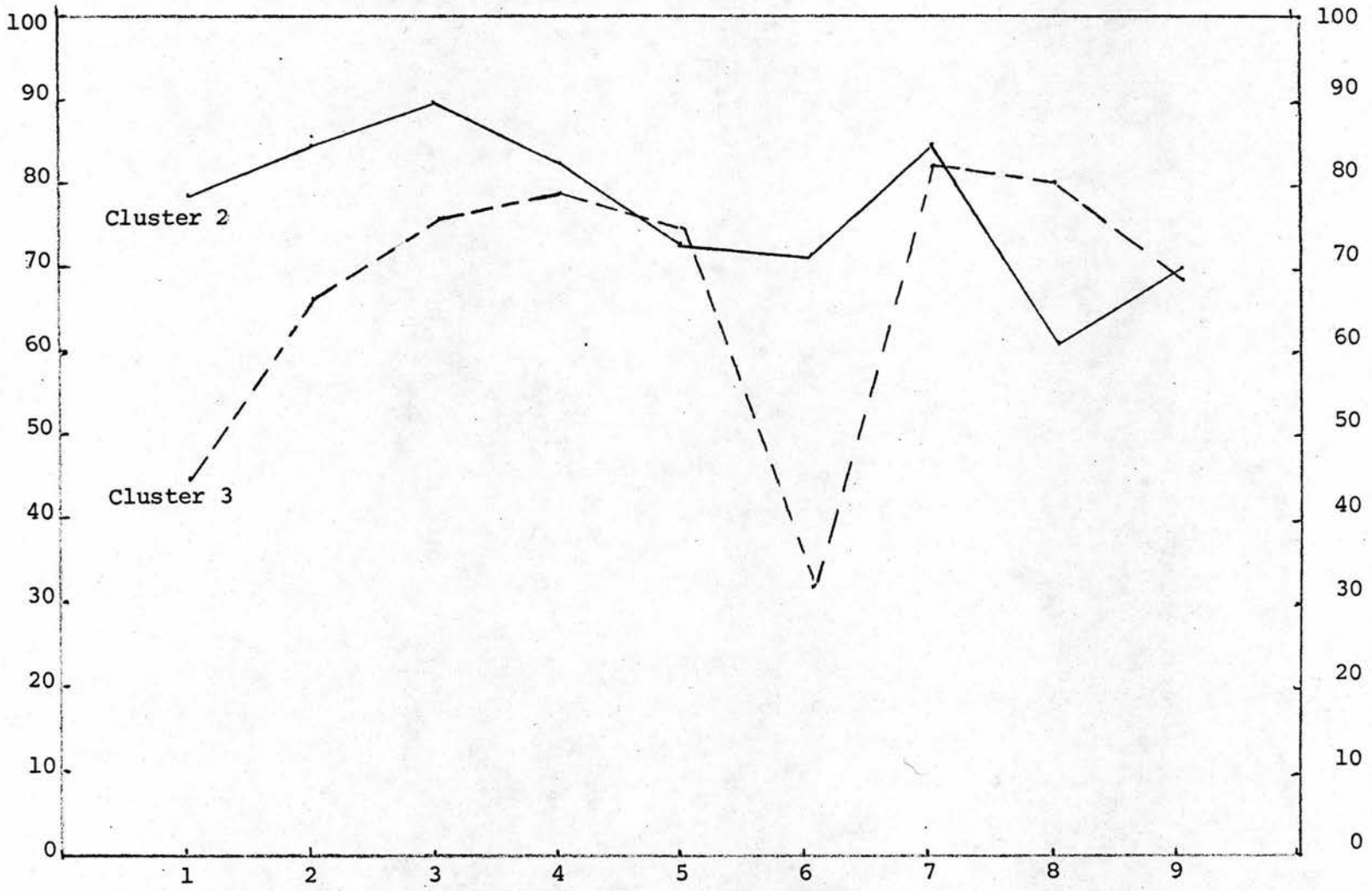


Figure 9.2 AVERAGE RATINGS ON CES DIMENSIONS BY SPECIAL CLASS STUDENTS FOR CLUSTERS 2 and 3

However, subcluster 1A is the exception to this pattern, showing higher average ratings on six of the nine dimensins, particularly Innovation, but at the same time showing a markedly lower rating on Order and Organization.

Cluster 2 (N=26) in comparison with Cluster 1 has much higher ratings on most dimensions, particularly Order and Organization, although the Staff Control rating is close to Cluster 1 level. Cluster 3 (N=17) has higher average ratings on Task Orientation, Competition, and Staff Control, while ratings on relationship dimensions (Involvement, Affiliation, Staff Support) and Order and Organization are lower. In marked contrast to Cluster 2, Cluster 4 (N=17) has the lowest average ratings on all nine dimensions.

Interpretation of the clusters in Figures 9.1 and 9.2 are facilitated by examining the distribution of class characteristics, particularly staffing model and average student age, across clusters. Table 9.11 reports crosstabulation results (produced by SPSS procedure CROSSTABS) for the four main clusters and the staffing model variable. Clusters 2, 3 and 4 each include marked variation in the distribution of staffing models. Cluster 2 has above-average representation from teacher-teacher classes; Cluster 3 is mainly teacher-aide classes; and, Cluster 4 is a combination primarily of teacher-child care worker and single teacher classes. This distribution of staffing models reflects the relative levels of average ratings identified earlier (Table 9.4): teacher-teacher classes have the highest average ratings on most dimensions and so does Cluster 2; similarly, single teacher classes have the

Table 9.11 DISTRIBUTION OF SPECIAL CLASSES BY CLUSTER AND STAFFING MODEL

STAFFING MODEL	Cluster 1 (N=58)	1A* (N=12)	2 (N=26)	3 (N=17)	4 (N=17)	Total
Teacher-Teacher (N=14)	10.3%	16.7%	23.1%	5.9%	0.0%	11.0%
Teacher-Aide (N=41)	38.0	25.0	26.9	52.9	17.6	34.7
Teacher-Child Care Worker (N=50)	43.1	58.3	38.5	29.4	58.9	42.4
Teacher (N=13)	8.6	0.0	11.5	11.8	23.5	11.9
Total	100%	100%	100%	100%	100%	100%

Chi-square = 13.7 Significance probability = .14

* Subcluster of cluster 1 not included in chi-square test

lowest ratings and so does Cluster 4. Teacher-aide and teacher-child care worker classes display more variation in ratings which lead to contributions to Cluster 3 and 4, and subcluster 1A (7 of 12 classes are T-CCW). While these relationships are indicated between cluster and staffing model, they are not statistically significant as indicated by the chi-square data in Table 9.11.

The distribution of classes by student age and clusters is shown in Table 9.12. Again, Clusters 2, 3 and 4 consist of differing patterns consistent with the average ratings discussed earlier (Table 9.5), and related to the distribution of staffing models: Cluster 2 has the highest average ratings and overrepresentation of the youngest age group; Cluster 4 has the opposite pattern in both respects. The relationship between cluster and average student age in the classes is statistically significant and as indicated by the lambda coefficient in Table 9.12, clustering improves the prediction of student age by 19%.

7. QUALITATIVE DATA

In Chapter 7 it was noted that the interviews with classroom staff were designed to elicit certain data on the organization of classroom activities. The interview guide included a question which interviewers were instructed to use as a beginning point for an open-ended discussion:

"7. Staffing Arrangement: relationship between respondent's time with students in group or individually compared with other staff regularly in the classroom.

b) How long has this arrangement operated?

c) What was it like before? (if known)"

Table 9.12 DISTRIBUTION OF SPECIAL CLASSES BY CLUSTER AND AVERAGE CLASS STUDENT AGE

STUDENT AGE	1 (N=58)	1A (N=12)	2 (N=26)	3 (N=17)	4 (N=17)	Total (N=118)
10 and under (N=46)	37.9%	18.2%	65.4%	35.3%	5.9%	38.9%
Over 10 to 12 (N=33)	27.6	45.4	19.2	47.1	23.5	28.0
Over 12 (N=39)	34.5	36.4	15.4	17.6	70.6	33.1
Total (N=118)	100%	100%	100%	100%	100%	100%

Chi-square = 23.5 Significance probability = .001

* Subcluster of cluster 1 not included in chi-square test

The primary purpose was to gain some insight into the pattern of collaboration in staffing models involving more than one staff person.

In analysing the interviewers' notes resulting from use of the staff interview guide, the primary categories of data were labelled "Class Organization", essentially "who" does "what" in the classroom; and "Quality of Relationship", which includes any indication of extent of co-operation between staff in classrooms. Information on staff relationships was not sought in the interviews but was volunteered by staff in almost half the classes surveyed. Comments also were grouped into a total of eight other topics, although these proved to be too scattered or uninformative to permit any meaningful or systematic interpretation (except as noted under other effects below). In Table 9.13, the categories and illustrative staff comments for each are summarized.

a) Classroom Organization

There are a number of aspects of classroom organization that can be considered, or a number of ways it can be viewed. Most often discussed are:

- scheduling of classes (e.g. length of sessions, subject sequence)
- grouping of classes (e.g. by ability or age)
- instructional format (e.g. lectures or discussion)
- staff assignment (e.g. team teaching)

This last perspective is of primary interest here. In the three staffing models examined (teacher with aide, teacher with child care worker, two teachers), how are classrooms organized in

terms of the roles performed by staff, and their use of time. Information on these aspects of classroom organization was obtained for almost all classes surveyed mainly by use of question 7 in the staff interview guide, and also by interviewers' observations. The following commentary is based on data from 100 classes (118 classes included in the final study analysis minus single teacher model classes [14] and also minus 4 classes for which adequate data were not obtained).

When classroom organization data are reviewed for the 100 classes, the most prominent characteristic is the extent of togetherness or separateness of staff activities. This reflects the wording of question 7 in the interview guide. At one extreme, no roles are the same and they are not performed together; at the other extreme, there is considerable similarity of roles and they are often performed jointly. In a classroom organized separately, for example, the teacher and child care worker might agree to divide the day into academic and other (e.g. arts and crafts) activities and divide conduct of sessions accordingly. The teacher would thus conduct activities which are regarded as academic (usually the "three r's", and subjects such as history or science); the child care worker would conduct arts and crafts or recreational activities . A lesser extreme, but still primarily a separate classroom organization, is illustrated by teacher-teacher classes where the two staff divide the students into two groups and, in effect, have two classes within the one classroom.

When the classes were grouped into categories of similar approach to class organization, the two extremes of

separate and joint activity were first distinguished. A large number (42 out of 100) were found to be using primarily a separate classroom organization model. Only a relatively small number (16) were operating jointly to any substantial degree. In between, were 42 classes displaying a mixture of joint and separate arrangements. Frequently, the mix depends on the time of day: in the morning the teacher instructs on a group basis while the aide does remedial work with students individually; in the afternoon both conduct recreational or craft activities jointly with the whole class.

For several classes it was not easy to determine whether they should be assigned to one of the extreme groups (joint or separate), or remain in the mixed group. Whenever doubt remained after careful review of the data, the class was assigned to the mixed category. A few activities seem particularly to distinguish joint and separate category classes from the mixed group:

a) whether the aide or child care worker does any teaching. A comment typical of a class in the separate category was "teacher does academics and child care worker does counselling"; typical of a mixed category class was "teacher plans academics, shares teaching with child care worker, and both plan behavioural program"; and typical of a joint category class: "teacher and child care worker share both academics and behavioural program -- work as a team".

b) whether the teacher will share recess or lunchtime

supervision duties with aides or child care workers. Sharing of these duties is reported for most joint category classes, few mixed classes, and almost none of the separate category classes.

c) frequency of planning or review meetings to discuss classroom activities. These review meetings or discussions are reported to occur only seldom in separate category classes, more often in mixed classes, but on a daily basis in several joint category classes.

Comments by staff on other aspects of classroom organization did not as clearly distinguish joint and mixed arrangements. It was more likely, for example, in joint arrangement classes that both staff were with the whole class more of the time. Yet the same was reported for several mixed arrangement classes as well. Similarly, there were more statements from joint arrangement classroom staff of "working as a team" but also a number of such statements from mixed arrangement classrooms. Very few from separate category classes.

An obvious question in a study of classroom staffing models is the relationship between staffing model and classroom organizational arrangements. Table 9.14 summarizes the pattern observed. Classes with two teachers are more likely to have mixed organizational arrangements (8 out of 13); similarly teacher-child care classes are more likely to be mixed arrangements (24 out of 51). Teacher-aide classes are more

likely to be organized separately (21 out of 36). The chi-square of 7.89 with four degrees of freedom indicates that the relationship between staffing model and type of class organization is significant only at the 10% level. The different pattern by staffing model probably reflects the relative status of teachers, aides and child care workers. A teacher is more likely to have to involve another teacher or a child care worker in activities in a mixed or joint fashion, compared with the expectations of aides.

b) Quality of Relationship

Although information was not specifically sought on the quality of working relationships between classroom staff, data were volunteered in approximately half of the classes surveyed. This information also was supplemented by interviewers' observations. Evidence for the levels of satisfaction with working relationships was either at a general evaluative level (e.g. "we work well together") or was a specific comment that could be interpreted as indicating the level of satisfaction (e.g. "jointly review the day's events and plan the next day", or (contrast) "seldom discuss class plans").

Interviewing the staff individually permitted assessment of the congruence between their views of their working relationship. In most cases there was substantial agreement in the views reported, although it may well be that the intensity of views varied since there was only limited probing of the information given. Table 9.15 summarizes the distribution of classes by type of class organization and reported quality of working relationships. Perhaps the first

point to note in considering Table 9.15 is the 57 classrooms for which quality of relationship is not reported. When the data on relationship quality were unclear or ambiguous, a class was not included in the analysis. Given that quality reports were volunteered, not specifically sought, the most likely probability is that the 43 reporting were the classes where staff felt strongly enough--positively or negatively--to comment. Quality of working relationship in most of the other classes could, therefore, be taken as in the middle range. On the basis of this assumption, there are very few classes (9 of 100; or, even 9 of 43) in which working relationships are significantly negative, or "conflictual".

The second inference suggested by Table 9.15 is that class organization is not attempted on a joint basis or does not remain on a joint basis if the staff relationship is not a co-operative one.

c) Relationship to CES Ratings

The patterns of class organization in relation to staffing model in Table 9.14, and in relation to quality of relationship in Table 9.15 can also be compared to the Classroom Environment Scale ratings of staff and students. Three sets of analyses were conducted:

i) comparison of classes for which quality of relationship is reported, with classes not reporting,

ii) for classes reporting quality of relationship, comparison of ratings for classes in the co-operative and conflictual columns, and,

iii) for classes reporting co-operative relationships, comparison of ratings among joint, mixed and separate groupings.

For analysis sets i) and ii) two-tailed T-tests were employed; for set iii), one-way analysis of variance. The tests were performed for both student and staff ratings on all nine CES dimensions individually. Of the 36 T-tests, only 3 were significant at the 5% level, indicating that the ratings of classes reporting quality of relationship were not significantly different from classes not reporting, and more importantly, that ratings from classes reporting co-operative relationships were not significantly different from ratings in conflictual relationship classrooms.

Of the 18 analyses of variance, only one was significant at the 5% level indicating that the ratings do not differ significantly between classes with joint, mixed and separate class organization arrangements. In summary, there is almost no evidence that type of class organization or reported quality of staff relationship is related in any significant way to staff and student ratings of classroom social climate.

d) Other Effects

As noted above, interviewers also recorded other comments made by staff during interviews. Mainly, these concerned practical matters of class operation. A second staff person makes it possible, for example, to leave the class briefly during sessions to answer a phone call or to confer about cases. Similarly, there can be more continuity when one person is ill and replaced by a substitute. The other staff

person can ensure a more normal program of activity. This kind of increased stability and continuity is especially desirable in classes for children with psychosocial disorders.

In the vein of "two heads are better than one", staff made a point of stressing to interviewers how a second person multiplied the possibilities of program planning and activity in the classroom. Usually, complementary skills and interests were discovered by the staff and mutual arrangements made for their application.

8. METHODOLOGICAL NOTE

The qualitative data reported in the preceding two sections raise again the study design question discussed in Chapter 7: that is, whether or not to include a substantial qualitative component in the research plan. In the end, a component was not included, although one open-ended question was included in the staff interview guide. The responses to that question provided some indication of the advantages a more substantial qualitative component could have contributed.

With the means available to conduct a substantial quantitative study, it appeared to be an opportunity to obtain solid date on a relatively specific question of relationship between staffing models and classroom climates. The applicability of powerful methods of statistical analysis was expected to identify significant patterns of relationship among variables. As it turned out, weaknesses in the Classroom Environment Scale (analysed in Chapter 8) reduced severely the analytical possibilities. The central findings are clear

despite the instrument limitation, but the elaboration and nuance is far less than anticipated.

In this circumstance the contribution of interpretive richness from a substantial qualitative component would have been particularly welcome. It might have added some "thick" description, to use Ryle's term (Geertz, 1973). That is, the meaning of staffing model aspects in relation to, or in the context of classroom climates might have been explicated. Even the responses to the staff interview guide question on class organization provided some illumination complementing the findings provided by the quantitative analysis. Perhaps of most value is the information on different forms of classroom time organization and deployment of staff. Combined with the reports of quality of staff relationships, the class organization data provide concrete elaboration of the staffing model phenomenon and of variations in its application.

More generally, the complementarity of findings which different methods may provide has led to advocacy of combined methodological approaches (Campbell and Fiske (1959), Webb, et al (1966), Denzin (1978)). This multi-method strategy is often referred to as "triangulation", from the navigational procedure of using multiple reference points to determine an object's location.

The basic analogy of triangulation is obvious enough, but the application can be more problematical. Considering the philosophical differences between the positivist perspective underlying quantitative approaches and the phenomenological perspective influencing qualitative approaches, it is not

surprising that research usually tends to be oriented primarily in one or the other direction. If a balanced study is attempted, the results may be difficult to interpret if the differing methods yield divergent findings. On the other hand, there is a growing number of examples of fruitful application of the triangulation approach (e.g. Van Maanen, 1983), and suggestions for its effective application. Sieber (1973), for example, discusses practical ways in which fieldwork and survey methods can be integrated. A few of the ways were employed in this study (e.g. exploratory interviews and observations influenced the survey design); however, a substantial qualitative component would have made possible a balanced integration of methods.

CHAPTER 10

SUMMARY AND DISCUSSION OF RESULTS

The central purpose of the study has been to explore relationships between staffing models and classroom climate in Ontario classes for children with psychosocial disorders. Four staffing models were identified and surveyed: teacher-aide, teacher-child care worker, teacher-teacher, and single teacher. In Chapter 6, several propositions were formulated about the relationships expected between staffing and climate variables (and with student, staff and organizational context variables). These propositions were based on four aspects of the staffing models surveyed:

number of staff

different roles

different role approaches

relative status

The survey findings reported in Chapter 9 will now be discussed and interpretations of the results considered.

1. SUMMARY OF RESULTS

The extensive survey of special classes which was conducted -- over 750 students and 250 staff in 125 classes -- provided a broad sampling of the four staffing models. It also indicated the diversity of climate perceptions of the special classes. As shown by the cluster analysis of class ratings (Figures 9.1 and 9.2), there are at least five distinct

groupings of classrooms useful to distinguish:

1. "Average" cluster (N=58) which approximates the average ratings on CES dimensions for the total sample
2. "High child care" subcluster of the average cluster (N=12) which has an overrepresentative proportion (58.3% vs 42.4%) of child care classes, and generally above average climate ratings (line 1A in Figure 9.1)
3. "High teacher-teacher" cluster (N=26) which has high average ratings, especially for Order and Organization dimension, and a higher proportion of teacher-teacher classes (23.1% vs 11.0%)
4. "High control" cluster (N=17) which has an overrepresentation of teacher-aide classes (52.9% vs 34.7%), and above average ratings on Task Orientation. Competition and particularly Staff Control, but lower ratings on other dimensions, especially Involvement, Affiliation, Support, and Order and Organization
5. "Low child care/single teacher" cluster (N=17) which is mainly teacher-child care worker classes (58.9% vs 42.4%) and single teacher classes (23.5% vs 11.9%) and has much lower than average ratings on all nine dimensions.

The pattern of clusters based on climate ratings thus indicates some interrelationships between climate and staffing model, although the test in Table 9.11 for distribution of models by cluster does not reach a significant level (chi-square = 13.7; probability = .14). Moreover, the distribution of student age by cluster displays a much more significant

relationship (Table 9.12: chi-square = 23.5; probability = .001), and student age also has a somewhat similar relationship with staffing models (Table 9.7: chi-square = 109.6; probability = .000) as with the clusters. There is, therefore, an overlapping relationship between student age and staffing model in relation to classroom climate.

The significant variation in climate ratings might be discounted as a change in perception that children undergo as they approach adolescence. However, the staff ratings reported in Table 9.6 display a similar pattern by student age as do the student ratings. It appears, therefore, that the climate effects related to student age are more substantive than just a change in perception.

Clarifications of the distinction between the relationships of student age and staffing model to climate, and assessment of the staffing/climate relationships for each climate dimension separately, are provided by the analyses of variance reported in Table 9.4 and 9.10. Table 9.4 confirms the impression conveyed by Figures 9.1 and 9.2 that the variation between staffing models is similar on most dimensions. That is, teacher-teacher average class ratings are highest on most dimensions, single teacher are lowest, with teacher-aide and teacher-child care in between. This pattern provides general support for the expected distinction between staffing models according to number of staff in the class (i.e. whether or not more than one person is in the class). There also is support for the relative status argument that influence of aides or child care workers is limited by the higher status of teachers.

The consistently highest rankings of teacher-teacher classes provide no support for the expected significance of different roles or role approaches.

As noted above in reference to Table 9.12, however, the relationship of student age to climate ratings must be taken into account in assessing staffing/climate relationships. When this is done, as in Table 9.10, the significance of the variation in climate ratings by staffing model only is significant for the dimension of Staff Control.

The potential interacting effect of several other context variables besides student age was investigated (i.e. student sex, length of time in class, behaviour; staff sex, education, work experience, colleague contact; and, school location, board status, size of class, agreement status). As reported in detail in Chapter 9, these variables either had no significant relationships to climate ratings or did not contribute substantially to explanation of variances beyond what student age and staffing model explained.

2. POSSIBLE EXPLANATIONS

Not only have the effects of staffing models shown a different pattern than anticipated, they also have proved to be relatively weak effects. How can these results be explained? Certainly in the field there has been widespread conviction since inception of different staffing models that there are significant beneficial effects. Indeed, this study was regarded by many key informants as simply proving that obvious assumption.

There is encouragement in the literature, too. Payne and Pugh (1976), for example, in their major review of organizational structure and climate research, report evidence of significant relationships between structure and climate variables. Despite an ambivalence about immediate prospects for measurement of additional relationships, there is a clear underlying assumption in their conclusion about the existence of relationships between structure and climate variables.

In retrospect, the results of the present study suggest greater caution about likelihood of significant relationships between structural variables and climate, especially if more specific structural features like staffing are being examined (compared to basic features such as organizational size or degree of centralization). Instead of the staffing model example of structural change, consider the architectural difference of open-plan physical areas compared with traditional classroom designs. This can be regarded as a specific structural variable that might be expected to have significant effects on teacher-pupil interactions. Martin (1976) however, found no "significant differences in the negotiations that go on between teachers and pupils in the three types of school structures observed -- open, closed, and mixed". Other studies reinforce Martin's findings (Leroy [1973] and Seidman [1973]).

What explanation might account for the lack of relationship between climate measures and substantial architectural or staffing changes? Attempting to answer that question leads back to the role analysis in Chapter 4. That analysis was based on the proposition that expectations greatly

influence the behaviour of those who are assigned roles in a social situation. As the approach was extended in Chapter 6, perceptions of classroom climate were expected to be affected by the behaviour related to role expectations. The results of the survey indicating very limited relationship between climate variation and role expectations (which were believed to be markedly different) forces a reexamination of that formulation.

It was noted in Chapter 4 that expectations are difficult to investigate and that only limited study appears to have been conducted on the expectations for teachers, aides and child care workers -- particularly the latter two groups. Accordingly, only a partial picture of expectations may have been assembled in at least two major respects. Firstly, the picture may be too general, especially for child care workers. As their participation in classrooms has become more widespread, more information is available related to role expectations. There are some indications that those expectations differ significantly between settings (Denholm, 1981).

The second major way in which the picture of expectations in Chapter 4 was too limited concerns the relative lack of information from students. With the addition of aides or child care workers to classrooms being a relatively recent development, there has been little investigation of the phenomenon from student perspectives. Furthermore, it may be that student expectations of other staff in the classroom are relatively undifferentiated from their expectations of teachers, particularly during an initial period of their presence. Context may be important in this regard and suggests that an alternative

interpretation useful to apply would be the interactionist concept "definition of the situation".

Definition of the Situation

Essentially, the concept is that people define the situations they are in by attaching meaning to the ongoing events in which they find themselves. The main impetus for forming the definitions is to determine the actions required or desired in a situation — "action orientations", Stebbins calls them. He defines action orientations as the "set of consequences the actor hopes to achieve or avert through activity in the immediate situation" (1975). Action orientations are shaped both by situational elements and by personality-cultural factors organized as "a set of predispositions that the actor brings to the situation" (Stebbins, 1975) (recall Lewin's formula behaviour [B] = a function [F] of personality [P] and environment [E]).

Applying the notion of definition of the situation to the social setting of classrooms, consider first the actors usually present to do the defining: a teacher and group of students. All will be forming definitions but the teacher's are likely to predominate in most respects. The important point to note here is that any set of definitions of the situation will be a mixture of relatively established more general definitions, and relatively more particular and varying definitions. An early, classic discussion of the situation in classrooms (Waller, 1932) expresses well the two extremes of the mixture:

> "Much of the importance of the definition of the situation in human affairs arises from the configurational

element involved in the process. When a situation has once been seen in a particular configuration, it tends to be seen in that configuration ever after, and it is very difficult to see it in any other. The configuration first established may be said to inhibit the formation of other configurations. The changelessness of custom arises in part from the fact that we cannot see those alternatives of behaviour which are contrary to the folkways of our group; we have organized the situation and ourselves with reference to it, in another configuration."

"The aspect of the situation toward which action is directed is also a factor of importance. We direct our attention toward that which is in the foreground, and we overlook that which is in the background of the situation as it is organized into a particular configuration. The foreground tends to be, in a configuration which makes up the definition of a situation, the point of least resistance. We direct our attention and our action toward that which can be changed, and we do not attempt to alter changeless things."

As an illustration of Waller's point about the fixedness of configurations, consider the way both students and teachers "define" the classroom situation in relation to the main purpose of school. Students usually acknowledge that their primary task is "to learn", with more candid responses showing frank ambivalence: e.g. "to please the teacher" (especially in the elementary grades). (See Hargreaves, 1975.) Teacher responses usually are to the effect that the primary task is "to

teach" or "to help students learn". (Recall from Chapter 4 that the predominant teacher role is the instructional.) Again, more candid responses would qualify the basic statement of task.

The basic responses do serve, however, to illustrate an important point concerning the different staffing models studied in the survey: they add secondary roles (T-A and T-CCW) or reinforce the primary role (T-T), but there is no substantial alteration of the instructional role. As was noted in most of the classrooms during the survey, non-teaching staff even are called teachers by the students. This point may be central to explaining the limited relationships found between staffing models and classroom climate. If both students and teachers are defining the situation as predominantly instructional, it will be difficult for additional staff to introduce alternative definitions.

On the other hand, as Waller suggests, the total situational definition consists of many components only some of which are firmly set configurations. While the more fixed definitions such as those related to the primary classroom task may account for the lack of variance explained by staffing model, more variable definitions may account for some of the differences in climate ratings between classes. Research in the areas of teacher and therapist effectiveness raise some possibilities in this direction. (See Brophy [1979] or Dunkin and Biddle [1974] regarding research on teacher effectiveness; Garfield and Bergin [1978], and Smith, Glass and Miller [1980] on effectiveness of psychotherapy).

3. APPRAISAL AND IMPLICATIONS OF THE STUDY

In appraising what has been accomplished in this study, the first observation can be that a basic answer has been obtained to the question of effects of staffing models in special classrooms. As summarized earlier in Chapter 10, the effects are much less and in some different directions than anticipated. These findings contribute to the more general picture in this research field that classroom processes, like all social interactions, are complex phenomena influenced by many factors, very few of which are likely to have major effects attributable to them.

The weaknesses of the Classroom Environment Scale (fully analysed in Chapter 8) severely limited the original intentions of analysing different features of classroom social climate in relation to staffing models. Indeed, had it not been for the large size of classroom sample surveyed, even the basic question of staffing model effects might not have been answerable. Depending on how much smaller the sample had been, it also would not have been possible to identify the psychometric problem of the CES.

Despite the limitations of the CES, the clusters of variation in classroom social climate invite further inquiry as suggested in the next section on Future Research. It is unfortunate in retrospect that the qualitative component originally envisaged as a complement to the classroom survey of climate perceptions was not undertaken. It might have provided some clues to other salient factors influencing social climate. As it was, the staff interviews did yield qualitative

information discussed at the end of Chapter 9 which can be useful to those operating special classes (see below).

In theoretical terms, besides reinforcing the interactionist perspective as is suggested in the preceding section of Chapter 10, this study points to the need for fuller consideration of the question of what is social climate. As in numerous other recent studies, this investigation in special classrooms yielded significant variations in climate ratings between classes. Such variations have been found to relate to important differences in outcomes; for example student achievement scores (e.g. Haertel, Walberg and Haertel, 1981). Less clear is the relationship between factors shaping social climate and the outcomes related to climate. What, in that chain of relationships, is social climate?

In turn, methodological implications arise. This study concentrated extensive quantitative analysis specifically on one factor -- staffing models -- in relation to social climate. One conclusion which the results indicate is that exploratory analysis has not reached the stage where there is sufficient evidence to guide the choice of focus for concentrated quantitative analysis. (An obvious further methodological point is that instruments need to be more reliable than the CES short form proved to be.)

In terms of policy implications, the study has considerable immediate value in the service context where it was conducted. Legislation making special education a right in Ontario comes into full force in 1985. Preparations for this change have brought the type of classrooms included in the study

under thorough review. The program of agreements between treatment centres and school boards which was outlined in Chapter 3 is now ten years old. Having expanded far beyond original expectations and now funding in excess of 600 classroom teachers, the agreement program is similarly being scrutinized. Financial restrictions have greatly intensified the review activity.

In these circumstances, a study of staffing models is of immediate interest. While it is only one study, it can (and already is) being compared with administrative experience. For example, two school boards which had been in the forefront of the mid-1970's initiative to add child care staff to special classrooms have concluded from operational experience that this model is not sufficiently more effective to retain on an across the board basis. To varying degrees, there is advantage to having additional staff support available to special classes, but a more flexible model can yield additional benefits beyond the classrooms as well as retain some support in the classrooms.

This more flexible model adds a child care worker in the school context but <u>not</u> continuously in one classroom as is the case in the teacher-child care worker model. Instead, the child care worker is available to be a resource to other classes, even other schools. Such an arrangement permits more targeted child care activity across a broader domain.

This child care support model is a response both to the widespread conviction in schools that they need help dealing with the behaviour of children with psychosocial disorders, and to the belief that the school's capabilities in this regard can

be increased considerably. Depending on the circumstances, a child care worker's time in a special class could vary from almost none to practically full-time, and the time could change as often as weekly or even daily.

Another policy implication from the study which is not an idea with as widespread recognition in the field is the staffing of classrooms by two teachers. To be economically feasible in the current period of restraint, these classrooms would need to have a larger number of students than special classes with a teacher and aide or child care worker. On the other hand, declining student enrolments have left school boards with more teachers than they need. While many are being laid off, boards have also reduced the requirement to take that action by enriching certain areas of programming (e.g. special education, French immersion, English for immigrant children).

Finally, the pattern of interactions documented from the staff interviews can serve to take some of the pressure off classroom staff. If they know that collaboration need not be joint in the fullest sense seen in only 16 of 100 classes in this study and still be well perceived by students, then staff anxiety may be reduced and more realistic arrangements established without fruitless striving for generally unrealistic forms of working together.

It was noted in Chapter 4 that teachers are expected generally to manage on their own in the classroom. This relatively isolated and unsupported situation presents a substantial opportunity to child care workers in the support model proposed here. At the same time, however, they first need

to establish rapport with and gain the trust of teachers and other school personnel. This requires not only competent child care work but also clarification of what can be accomplished in various circumstances. Often the request encountered by child care workers will be to "fix up" a student's behaviour and send him back "cured". Invariably, teachers will find that problem situations will require more or different action on their part even with the supportive involvement of the child care worker. But this is part of the process of increasing the capabilities of school staff to deal effectively with behaviour problems.

4. FUTURE RESEARCH

In the process of conducting the study in special classes, other effects associated with different staffing models were noted. These informal notes pertained mainly to aspects of staff satisfaction and modes of collaboration, as discussed in Chapter 9. Further research into these and related topics could provide information complementary to aspects addressed in this study, and also might contribute to validating the survey findings. Additional information on classroom process could be useful, as well, to those engaged in operating the growing number of classes with more than one staff person.

The observational approach could usefully be employed in this kind of inquiry. As indicated in Chapter 5, observation has been used extensively in research of the teaching process and some of that work could be used as a starting point in developing an analysis of different staffing models. Since methods of systematic observation are not easy to develop, considerable preparatory work would be required. One area of

research from which relevant concepts or operationalized variables are available is interprofessional teamwork as group process. Issues of team structure, communication, decision-making, conflict resolution, and group harmony which are central to team process research (see Kane [1975] for example) also are significant for the classroom staffing models involving more than one staff person.

Dunkin and Biddle's suggestion (1974) that distinctive teachers be singled out for special study could be applied in the observational study proposed here. In their case, the criterion for selection was the teacher's reputation as especially effective or especially ineffective. For an observational study of special classes, the criterion would be significantly high or low class scores on the Classroom Environment Scale, taking into account students' ages and type of staffing model.

a) Developing the Climate Survey Approach

Despite the problems encountered with the Classroom Environment Scale, the value of the climate survey approach has been demonstrated. It provided a meaningful, inexpensive basis for assessing the consequences of introducing different staffing models into special classes. At the same time, however, limitations were evident which suggest possible improvements.

In terms of the CES, there is a need for further development both conceptually and methodologically. As discussed in Chapter 8, analysis of CES results from various studies casts doubt on the validity of nine dimensions. Looking back at Moos' reports of development of the CES and of his

various other instruments for measuring social climate, conceptual formulation is a relatively brief component. There also are few references or comparisons to alternative conceptualizations proposed by others, although Moos is not alone in this shortcoming.

Psychometric analysis of the CES in Chapter 8 indicated that it also needs methodological improvement. The main problem is that too many items are rated the same way by a high proportion of respondents. Hence, the power to discriminate between environments is weakened. Eliminating these items would reduce the length of the CES and probably eliminate the need for a short form, particularly if the number of dimensions also is reduced by conceptual improvements.

More generally, the significant variations in climate ratings by students and staff in relation to the ages of the students suggests that norms specific to different age groups will need to be developed.

b) Other Sources of Climate Variance

The large proportion of variance in climate ratings not explained by staffing model, student age, and the several other variables included in this study raises the question of what other variables might relate to climate variation. The suggested alternatives run in basically opposite directions: more on the classroom process itself, and more on the context for that process. The suggested process emphasis relates to the proposal for observational studies in the first part of the future research discussion above. Dunkin and Biddle (1974) stress the importance of examining various process variables at

the same time. Such a multivariate approach makes it possible to discover which variables are not significant as well as those that are; also, which interrelationships are operating--all in a more cost effective way than separate studies of different variables.

Regarding other context variables that may account for additional climate variance, Moos (1979) makes the general suggestion that a more comprehensive set of variables would help. He recommends, in particular, that physical and architectural features be added, as well as more contextual characteristics such as composite ability level and socioeconomic status of the students, or overall school climate. This suggestion comes from Moos' experience with studies of climate in university residences where a broader range of variables was included and higher proportions of variance were accounted for (40 to 70% vs 20 to 35% in classroom studies).

The role of school climate in relation to classroom climate particularly needs exploration. There has been extensive inquiry into variation of climate, ethos or other characteristics between schools (e.g. Rutter, et al, 1979). Similarly, there is extensive evidence of variation between individual classes (e.g. Moos, 1979; Dunkin and Biddle, 1974). There is, however, very little reported exploration of the interrelationships between variations at the classroom level and at the school level. Methodological problems of data collection and analysis stand in the way of conducting this kind of two-level study (McPartland and Karweit, 1979). Nevertheless,

the problems are not insurmountable and the strong effects measured at both levels argue for the need to assess interrelationship of effects.

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APPENDIX A

INSTRUMENTS AND

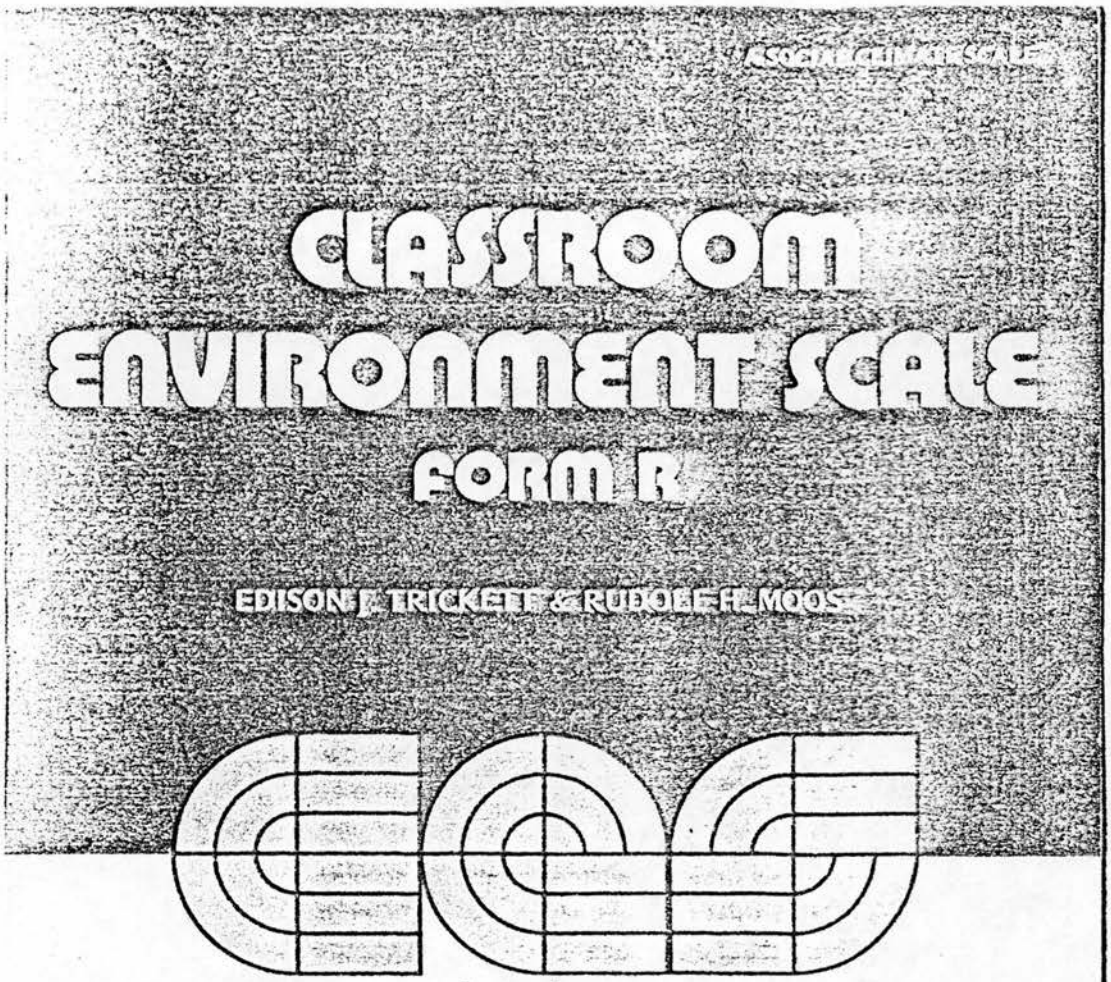
SURVEY DOCUMENTATION

Dear Parent:

A province-wide study of classroom environments is being conducted, and your child's class has been selected to participate in the survey.

Each student will be given a brief questionnaire about their opinions of the classroom environment to complete anonymously. This procedure will take approximately 15 minutes and will be carried out during one of the classes in the next few days. No personal questions will be asked about a student or his/her family.

If you have any questions or concerns about your child's participation in this study, please contact the school principal.



INSTRUCTIONS

There are 90 statements in this booklet. They are statements about high school and junior high school classrooms. You are to decide which of these statements are true of your classroom and which are false.

Make all your marks on the separate answer sheet. If you think a statement is true or mostly true of your class, make an X in the box labeled T (true). If you think the statement is false, or mostly false, make an X in the box labeled F (false).

Do not make any marks on this booklet.

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1. Students put a lot of energy into what they do here.
2. Students in this class get to know each other really well.
3. This teacher spends very little time just talking with students.
4. Almost all class time is spent on the lesson for the day.
5. Students don't feel pressured to compete here.
6. This is a well-organized class.
7. There is a clear set of rules for students to follow.
8. There are very few rules to follow.
9. New ideas are always being tried out here.
10. Students daydream a lot in this class.
11. Students in this class aren't very interested in getting to know other students.
12. The teacher takes a personal interest in students.
13. Students are expected to stick to classwork in this class.
14. Students try hard to get the best grade.
15. Students are almost always quiet in this class.
16. Rules in this class seem to change a lot.
17. If a student breaks a rule in this class, he's sure to get in trouble.
18. What students do in class is very different on different days.
19. Students are often "clock-watching" in this class.
20. A lot of friendships have been made in this class.
21. The teacher is more like a friend than an authority.
22. We often spend more time discussing outside student activities than class-related material.
23. Some students always try to see who can answer questions first.
24. Students fool around a lot in this class.
25. The teacher explains what will happen if a student breaks a rule.
26. The teacher is not very strict.
27. New and different ways of teaching are not tried very often in this class.
28. Most students in this class really pay attention to what the teacher is saying.
29. It's easy to get a group together for a project.
30. The teacher goes out of his way to help students.
31. Getting a certain amount of classwork done is very important in this class.
32. Students don't compete with with each other here.
33. This class is often in an uproar.
34. The teacher explains what the rules are.
35. Students can get in trouble with the teacher for talking when they're not supposed to.
36. The teacher likes students to try unusual projects.

37. Very few students take part in class discussions or activities.
38. Students enjoy working together on projects in this class.
39. Sometimes the teacher embarrasses students for not knowing the right answer.
40. Students don't do much work in this class.
41. A student's grade is lowered if he gets homework in late.
42. The teacher hardly ever has to tell students to get back in their seats.
43. The teacher makes a point of sticking to the rules he's made.
44. Students don't always have to stick to the rules in this class.
45. Students have very little to say about how class time is spent.
46. A lot of students "doodle" or pass notes.
47. Students enjoy helping each other with homework.
48. This teacher "talks down" to students.
49. We usually do as much as we set out to do.
50. Grades are not very important in this class.
51. The teacher often has to tell students to calm down.
52. Whether or not students can get away with something depends on how the teacher is feeling that day.
53. Students get in trouble if they're not in their seats when the class is supposed to start.
54. The teacher thinks up unusual projects for students to do.
55. Students sometimes present something they've worked on to the class.
56. Students don't have much of a chance to get to know each other in this class.
57. If students want to talk about something this teacher will find time to do it.
58. If a student misses class for a couple of days, it takes some effort to catch up.
59. Students here don't care about what grades the other students are getting.
60. Assignments are usually clear so everyone knows what to do.
61. There are set ways of working on things.
62. It's easier to get in trouble here than in a lot of other classes.
63. Students are expected to follow set rules in doing their work.
64. A lot of students seem to be only half awake during this class.
65. It takes a long time to get to know everybody by his first name in this class.
66. This teacher wants to know what students themselves want to learn about.
67. This teacher often takes time out from the lesson plan to talk about other things.
68. Students have to work for a good grade in this class.
69. This class hardly ever starts on time.

70. In the first few weeks the teacher explained the rules about what students could and could not do in this class.
71. The teacher will put up with a good deal.
72. Students can choose where they sit.
73. Students sometimes do extra work on their own in the class.
74. There are groups of students who don't get along in class.
75. This teacher does not trust students.
76. This class is more a social hour than a place to learn something.
77. Sometimes the class breaks up into groups to compete with each other.
78. Activities in this class are clearly and carefully planned.
79. Students aren't always sure if something is against the rules or not.
80. The teacher will kick a student out of class if he acts up.
81. Students do the same kind of homework almost every day.
82. Students really enjoy this class.
83. Some students in this class don't like each other.
84. Students have to watch what they say in this class.
85. The teacher sticks to classwork and doesn't get sidetracked.
86. Students usually pass even if they don't do much.
87. Students don't interrupt the teacher when he's talking.
88. The teacher is consistent in dealing with students who break the rules.
89. When the teacher makes a rule, he means it.
90. In this class, students are allowed to make up their own projects.

CLASSROOM ENVIRONMENT SCALE

(Modified Short Form)
(February, 1978)

INSTRUCTIONS: Please read each of the accompanying statements about classrooms and decide which ones are true of your classroom and which are false.

If you think a statement is true, or mostly true, of your class, make a ✓ in the "True" column beside that statement.

If you think a statement is false, or mostly false, make a ✓ in the "False" column.

It is important that every statement be answered.

NOTE: The word "staff" appears in several statements. It refers only to the adults in your classroom; not the whole school.

Instructions on tape:

There are 36 statements on this tape that could be used to describe school classes. We want to know which ones you think describe your class. Mark your opinions on the sheet given to you by the interviewer.

For example, the first statement says: Students are enthusiastic about what they do here. If you think this statement is true or mostly true for your class, put a checkmark in the True column beside that statement.

If you think it is false,or mostly false for your class, put a checkmark in the False column.

I will now read each statement twice and then pause to allow time for you to mark your response. If at any time you have a question, just ask the interviewer. Remember who to think of when you hear the word "staff".

	TRUE	FALSE	
1. Students are very interested in what they do here.			1.
2. Students in this class get to know each other really well.			2.
3. If a student wants to talk about something, the staff will do so.			3.
4. Almost all class time is spent on classwork.			4.
5. There is a clear set of rules for students to follow.			5.
6. Marks are not very important in this class.			6.
7. This is a well-organized class.			7.
8. There are very few rules to follow.			8.
9. New ideas are always being tried out here.			9.
10. Students daydream a lot in this class.			10.
11. Students aren't very interested in getting to know each other.			11.
12. Staff are interested in students.			12.
13. Students are expected to work hard in this class.			13.
14. Students try hard to get the highest marks in the class.			14.
15. Students are almost always quiet in this class.			15.
16. Rules in this class seem to change a lot.			16.
17. If a student breaks a rule in this class, he's sure to get in trouble.			17.
18. We always do the same thing in class every day.			18.

	TRUE	FALSE	
19. Students often are bored in this class.	☐	☐	19.
20. Students make a lot of friends in this class.	☐	☐	20.
21. Staff are more like friends than bosses.	☐	☐	21.
22. The class often spends more time discussing outside student activities than classwork.	☐	☐	22.
23. Students always try to answer questions before others do.	☐	☐	23.
24. Students fool around a lot in this class.	☐	☐	24.
25. Staff explain what will happen if a student breaks a rule.	☐	☐	25.
26. The staff are not very strict.	☐	☐	26.
27. We always do things the same way in this class.	☐	☐	27.
28. Most students in this class really pay attention to what staff say.	☐	☐	28.
29. It's easy to get a group together to work on something.	☐	☐	29.
30. Staff try hard to help students.	☐	☐	30.
31. Getting a certain amount of work done is very important in this class.	☐	☐	31.
32. Students don't compete with each other here.	☐	☐	32.
33. This class is often very noisy.	☐	☐	33.
34. Staff explain what the rules are.	☐	☐	34.
35. Students can get in trouble with staff for talking when they're not supposed to.	☐	☐	35.
36. The staff like students to try their own ideas.	☐	☐	36.

THANK YOU!

MODIFICATIONS TO CES SHORT FORM

As indicated in Chapter 7, the Classroom Environment Scale (Short Form) was modified for use in the study of special classes for children with psychosocial disorders. The modifications can be grouped into four categories:

a) Minor rephrasing: Approximately 1/3 of the items (#1, 4, 6, 11, 13, 14, 19-23, 29, 31, 36) were changed in a minor way to clarify but not alter the meaning of the item. For example, "classwork" was replaced by "work" in two items; other examples of changes: "marks" for "grades", "bored" for "clockwatching", and "enthusiastic about" for "a lot of energy into".

b) Replace "teacher" with "staff": One quarter of the items (#3, 12, 25, 26, 28, 30, 34, 35) only needed modification because they referred to "the teacher". In most of the special classrooms surveyed there was the presence of an aide or child care worker to take into account, as well. "Staff" was identified as the most familiar, neutral term available. To emphasize the focus on staff in the classroom, a special note was added to instructions for completion of the CES:

> "Note: The word 'staff' appears in several statements. It refers only to the adults in your classroom; not the whole school."

c) Recorder items: The sequence of two items in the original CES confused some students in the pilot test:

> "There is a clear set of rules for students to follow", and "There are very few rules to follow".

Moving the first item (#7 originally) ahead of #5 and 6 eliminated the confusion.

d) Reverse phrasing: Two items (#18 and 27) were expressed in opposite terms from the original. This may be the most significant change in the CES and was undertaken with some reservation. Item 27 was changed

> from: "New and different ways of teaching are not tried very often in this class."
>
> to: "We always do things the same way in this cla-s."

This change was prompted by reports from the pilot test of confusion about the negative wording. At the same time, item 18 was changed

> from: "What students do in class is very different on different days."
>
> to: "We always do the same thing in class every day."

This reversal of meaning was done to balance the items measuring the innovative dimension -- two positive about innovation, and two negative.

SCHOOL ONTARIO CHILDREN'S CHECKLIST

(Randall, McClure, Sone--1974)

INSTRUCTIONS: The accompanying statements describe behavior which may be shown by children.

If a statement describes the behavior of the student as you know him/her, make a ✓ in the "Yes" column beside that statement. (A "Yes" response applies even if the behavior only has been observed occasionally.)

If a statement does not describe the student's behavior, make a ✓ in the "No" column.

Although it may be difficult to answer some statements for some children, it is important that every statement be answered. Previous studies indicate that the best results come from working fairly quickly and trusting your initial response.

It may take approximately 15 minutes to complete the checklist for each child.

	YES	NO	
1. Becomes "jittery", building up tension, becomes wound up.			1
2. Makes drawings or written words that tend to be disorganized.			2
3. Walks around in a dream (wrapped up in own thoughts).			3
4. Shows tremors in lines when drawing.			4
5. Has difficulty in copying a model in arts and crafts period.			5
6. Is over-talkative, chatters, keeps talking or interrupting conversations.			6
7. Cannot describe sequence of events in pictures; only is able to label objects.			7
8. Has temper tantrums.			8
9. Makes up his* own words or uses common words in such a peculiar way that it is difficult to understand what he means.			9
10. Speaks in a way that is disconnected, incoherent or not sensible.			10
11. Generally makes awkward or clumsy movements.			11
12. Hits or bites himself; makes faces; makes senseless movements of fingers, arms, legs or head.			12
13. Displays jealousy over attention paid to other children.			13
14. Misses obvious details when describing what he sees in a picture.			14
15. Is aloof and socially reserved.			15
16. Is self-conscious and easily embarrassed.			16
17. Does not confide in others; keeps secrets to himself.			17
18. Uses profane language, swears, curses.			18
19. Is disobedient, difficult to discipline and control.			19
20. Speaks rapidly; words "come tumbling out fast".			20
21. Shows reversals in letters or numbers--(Prints "b" instead of "d").			21
22. Performs poorly in reading and spelling.			22
23. Lacks self-confidence.			23
24. Is restless, unable to sit still.			24
25. Has difficulty in catching a ball or other objects.			25

*male terms apply to both males and females.

MORE STATEMENTS ON PAGE 3...

	YES	NO	32
26. Does not cooperate in group situations.			26.
27. Moves constantly; "gets into everything"; "swarms all over".			27.
28. Tends to have accidents--(objects fall off desk, etc.)			28.
29. Is impertinent and saucy.			29.
30. Can give correct answers when teacher reads a test to him, but will not sit down and put answers on paper.			30.
31. Is loud, boisterous and rowdy.			31.
32. Falls over easily when in a precarious position.			32.
33. Looks puzzled or confused by things happening around him.			33.
34. May misspell own name even after adequate practice.			34.
35. Daydreams.			35.
36. In reading, may get the order of sounds within words mixed up, or may mix up the order of words in a sentence.			36.
37. Does not notice mistakes in his work.			37.
38. Destroys his own or others' property.			38.
39. Tends to annoy and bother others, is disruptive.			39.
40. Has difficulty picking out the main figure from the background in a picture.			40.
41. Cannot identify sounds correctly.			41.
42. Writing or printing is jerky, hesitant, and lacks rhythm.			42.
43. Does not know his right side from the left side.			43.
44. Mechanically repeats what is said to him.			44.
45. Has difficulty telling time.			45.
46. Has difficulty in judging distance or size.			46.
47. Loses his place on the page easily when reading or writing; skips sections.			47.
48. Fights with other children.			48.
49. Is depressed; is sad most of the time.			49.
50. Worksheets tend to be messy.			50
51. Stumbles, falls easily, throws clumsily, is awkward.			51.
52. Has difficulty in mathematics.			52
53. Uses an object repeatedly in a strange manner.			53

MORE STATEMENTS ON PAGE 4....

	1.5	1.0	
54. Has difficulty in coordinating both hands, or in coordinating hands with feet.			54
55. Jumps from one activity to the next; does not finish tasks.			55
56. Prefers to play alone.			56
57. Tends to drop or spill things.			57
58. Becomes noisier and more excited than usual when he is in a group.			58
59. Is irresponsible and undependable.			59
60. Gets easily flustered and confused.			60
61. Tends to press down excessively hard on crayon, pencil or pen during written work or drawing.			61
62. Seeks attention; likes to "show off".			62
63. Has feelings of inferiority.			63
64. Has difficulty in reproducing a series of letters, words or pictures.			64
65. Tends to bump into furniture.			65
66. Shows inversion of numbers or words--(ie- 12 for 21, or "saw" for "was").			66
67. Talks to himself.			67
68. Gets confused with directions, such as going from left to right, up or down, behind, to the side, etc.			68
69. Is tense, unable to relax.			69
70. Is hyperactive; "always on the go".			70
71. Has difficulty remembering; learns things one day and forgets them the next.			71
72. Walks or runs unevenly.			72
73. Appears to be shy or bashful.			73
74. Has a tendency to do the opposite of what he is asked to do.			74
75. Can follow instruction better after he has been shown rather than told.			75
76. Mechanically repeats certain words or phrases in a meaningless way.			76
77. Can easily be aroused to anger; is irritable and hot-tempered.			77
78. Has difficulty in copying material from blackboard or from page at desk.			78
79. Asks for praise or approval.			79

GUIDE FOR STAFF INTERVIEWS

1. Sex: _____

2. Employer: _____

3. Position: _____

4. Length of time in present position: _____

5. Formal education/training after high school: _____

_____

_____

6. Prior work experience: especially whether teaching, child care; also length of time

_____

_____

7. Staffing Arrangement: relationship between respondent's time with students in group or individually compared with other staff regularly in the classroom.
   b) how long has this arrangement operated?
   c) what was it like before? (if known)

_____

_____

_____

_____

_____

_____

_____

_____

8. Who would you say is your immediate superior? (ie-reporting or supervisory relationships)

_____

9. What other (respondent's own group--teachers, CCW's, or aides) do you regularly have contact with?

_____

CLASS LIST for CHECKLIST SELECTION

First Name*	Number in Alpha order	SEX	Age last Birthday	Time in Class (months)

*plus initial if any duplicate first names

Selection Procedure: Exclude children absent on survey day.

Circle names in alpha order: #1,3,5,7 if 7 or 8 names
#1,3,5 if 5 or 6
#1,2,3 if 3 or 4

GUIDELINES FOR THE CONDUCT OF RESEARCH BY EXTERNAL AGENCIES IN METROPOLITAN TORONTO SCHOOLS

Frequently permission is sought to conduct research in the schools of Metropolitan Toronto. The observance of common procedures should facilitate the processing of such requests and promote cordial working relationships. Accordingly, the following is suggested:

The researcher should approach the individual boards and solicit their interest in the topic. Each board would have the right to request modification of any proposal, and would retain independent jurisdiction with regard to acceptance or rejection of requests.

Where a study requires the participation of more than one board, the Educational Research Co-ordinator of the Metropolitan Toronto School Board will be pleased to assist in processing the request.

Formal requests for participation should be addressed to the Director or Superintendent of the board. A list of the boards is appended.

Requests should be made on prescribed forms which may be obtained from the Research Departments of the individual boards.

In addition to a general description of the study, the following conditions are essential:

(a) that the proposal have the approval of the institution or sponsoring agency;

(b) that the rights and well-being of subjects are protected;

(c) that satisfactory arrangements have been made for the feedback of results to the school system or systems in which research is conducted;

(d) that the confidentiality of information which reflects on the identifiable individual, staff member, or school is to be assured.

Manuscripts for publication in journals, books, magazines, or monographs should be discussed with the research persons of the participating boards prior to submission for publication.

The following document has been approved by the Advisory Council of Directors on February 11, 1970.

The Metropolitan Toronto Educational Research Committee

January, 1970

RESEARCH APPLICATION
FOR METROPOLITAN SCHOOL BOARDS

Date _____

Principal Investigator: Name _____ Phone _____

Address _____

Institution or agency _____ Phone _____

Title of Research Proposal _____

Describe the general educational or psychological problem that your study addresses.

_____

_____

_____

_____

Purpose of Study _____

_____

_____

_____

Indicate the potential utility of this project to the educational system.

_____

_____

_____

_____

_____

Please append to this application an Abstract including a one-page statement of the problem to be investigated, a 3 - 5 page review of the literature, and a statement of the hypotheses to be tested. In addition, please include one copy of the entire proposal.

Give a brief description of the proposed data analysis. _____

_____

School Facilities Required (including Teacher assistance): _____

_____

_____

_____

Approximate Dates:

For Commencing Data Collection _____

For End of Data Collection _____

Provisions for Feedback:

Procedures for Reporting _____

_____

_____

Expected Date for Submission of Completed Report to Board _____

Plans for Publication: _____

_____

Describe any Special Arrangements, Facilities or Circumstances _____

_____

_____

_____

_____

_____

Signature of Principal Investigator.....

This is to certify that the above described research proposal has been vetted for its academic soundness.

We have given consideration to ethical, legal, and moral questions arising from the proposal.

.....
Sponsoring Professor* (Please type name and sign.)

.....
Chairman of Department (Please type name and sign.)

*Your endorsement indicates that you are willing to attend, with the principal investigator, a meeting of School Board officials to discuss the study before approval is given.

The Metropolitan Toronto Educational Research Committee

HJD:mw
July 11, 1975

LETTER TO SCHOOL OR TREATMENT CENTRE

The Board has agreed to participate in a province-wide study of classes for disturbed children being conducted by — The main purpose of the study is to investigate the relationship between different staffing arrangements and classroom environment.

Information for the study will be gathered by interviewing both students and staff in each classroom selected for inclusion in the survey. Interviews with students take 10-15 minutes, and consist of a set of tape-recorded statements about classroom environment to which they are to respond "true" or "false". Staff interviews take approximately 45 minutes to discuss a few questions about background information, classroom staff arrangements and to complete a questionnaire on classroom environment plus behavior checklists on a sample of students in the class.

In the next few days, _____ will be contacting you to arrange for a convenient time to visit the class(es) at your school (treatment centre). Your cooperation in conducting the study would be very much appreciated.

P.S.-Upon completion of the survey, the results will be reported to all participants. In addition to a report of aggregate results (which do not identify any school board, class or individual), the group environmental profile for each class will be provided to the classroom staff for their own use and comparison to overall results.

STUDENT INTERVIEW INSTRUCTIONS AND SUGGESTED ASSISTANCE

Interviewer begins with a brief introduction emphasizing that:

a) the purpose of the survey is to find out what students and staff really think about their class
b) it is not a test; we want their own opinions
c) it is confidential--only the interviewer and researcher will see the responses
d) "staff" in their class means (names of staff).

The tape recorder is turned on. It begins with instructions about how to respond.

The interviewer should anticipate providing assistance during the student's completion of the CES:

a) some students, especia-ly younger/more disturbed, need to have the tape stopped after each of the first few statements to decide on their response.

b) other students, usually oder, don't need the tape. It is O.K. to turn off the tape, but please note this on cover of CES: "READ BY STUDENT"

c) meanings of words in some statements may need to be clarified. See list of alternative wordings which can be used by interviewers. Note: Younger students need to be watched for confusion on "not" statements such as #6, 26, 32.

d) some statements are uncertain how to answer if they feel a statement is true sometimes, or for some students. Respondents should be encouraged (and usually do decide) to estimate whether a statement is true/false most of the time or for most students (even if not true for themselves.

e) other students will think they don't know whether a statement is true/false for their class. They should be encouraged to report what they feel about the statement themselves. It is subjective perception which we're after.

Especially when students read the CES rather than listening to the tape, CHECK WHEN THEY ARE FINISHED THAT ALL STATEMENTS HAVE BEEN ANSWERED (and only as true or false, not both).

If a student really did not seem to understand the task at all, please mark "DOUBTFUL" on cover of CES.

If one or two students in a class are unwilling to be interviewed, the results will not be seriously affected. Usually, it should be a student's choice rather than the teacher's.

ALTERNATIVE WORDINGS FOR CES STATEMENTS

* - denotes items frequently asked

1. very interested--enjoy, like to do
   what--most of the things--both academic and other activities
2. get to know--do things together, make friends
3. something--a personal or private subject
4. classwork--schedule activity (academic and other activities which are perceived to be work)
5. rules--limits on what can be done (e.g., moving around, talking, smoking)
6. marks--measures of how you doing (e.g., tokens, rewards)

* 7. well-organized--class starts on time, sense of knowing what will happen next

8. see #5
9. new ideas--content more than structure or schedule of class activities
10. students--the majority, not just yourself
11. see #2
12. interested-friendly, try to help
13. no questions
14. see #6
15. no questions
16. no questions

* 17. trouble--depends on the respondent's idea of trouble

* 18. same thing--refers more to content than schedule; underlying idea of repetition, being "a drag"

19. no questions
20. no questions
21. no questions

22. outside student activities--what you did in the evenings or on weekends

23. no questions

24. no questions

25. no questions

26. strict--lots of rules

27. see #18

28. no questions

29. something--a project

30. no questions

31. no questions

* 32. compete--try to do better than others

33. no questions

34. no questions

35. trouble--see #17

36. no questions.

Staff Interview Instructions

The sequence for staff interviews is:

1. interview guide
2. class list
3. CES
4. SOCC's

1. Guide

To be completed by interviewer while discussed quite conversationally with respondent (to establish rapport). Items #5 and 6 do not need to be too detailed, but do want to know about:

#5-university degrees (eg-B.A., B.Ed.)
-Ministry courses (eg-Special Education Certificate)
-Community College courses (eg-Child Care Certificate)

#6-regular teaching
-special education teaching
-other experience
-all durations of experiences in number of years

For #7, we're interested generally in the staff schedule for a class, including recess and lunch times if with the students then.

#9 is intended to identify feelings of isolation/involvement as well as factual information about colleague contacts.

Extra copies of guide are provided for rewriting responses if notes made during interviews are brief, cryptic or illegible.

2. Class List

This is done following the guide so that students can be put in alphabetical order and selected for the SOCC's while respondents are completing the CES.

Age and time in class do not need to be exact. The teacher's recollections of both usually suffices.

Children who are absent on the interview day are not included in the SOCC selection because the SOCC's will be analysed in conjunction with the student CES's.

3. CES

Ask the staff person to read the instructions on the the CES cover and proceed to complete it themselves. Some staff have asked more questions about meanings of statements than the most inquisitive students! They may need to be coaxed into answering all items with only one choice of true or false. Remind them that it is a matter of deciding how you personally feel about the statements. For example, #17 says "If a student breaks a rule in this class, he's sure to get in trouble" Some staff have been concerned in answering this one because they feel that they provide consequences for rule-breaking, but not "trouble". In that case, they should answer "false".

Generally, respondents should be encouraged to decide on the basis of their own feelings about the essential idea of each statement.

4. SOCC

Write the first name of each student at the top of a SOCC and ask the staff person to complete each one following the instructions on the SOCC cover. Two additional points often have to be added to the instructions:

a) even if a student is believed to behave in a certain way, the appropriate response is "no" if the respondent has not actually seen the behavior himself.

b) when in doubt about an item, choose "no"

CHECK THAT ALL ITEMS ARE ANSWERED, PARTICULARLY THE BACK PAGE

APPENDIX B

SURVEY SAMPLE

Table B.1 DISTRIBUTION OF CLASSES BY INTERVIEWER

INTERVIEWER	NUMBER OF CLASSES
A	9
B	10
C	11
D	15
E	16
F	16
G	11
H	15
I	7
J	11
K	4

Table B.2 AGE AND SEX DISTRIBUTIONS OF STUDENT SAMPLES

	SPECIAL CLASSES	REGULAR CLASSES
SEX		
Male	84%	49%
Female	16	51
AGE		
Mean	11.8	12.3
Standard Deviation	3.8	1.7

Table B.3 DISTRIBUTION OF SPECIAL CLASS STAFF SAMPLE BY STAFF GROUP, TYPE OF STAFFING MODELS AND BY SEX.

	Teachers	Aides	Child Care Workers
SEX			
Male	44%	11%	41%
Female	56	89	59
STAFFING TYPE			
Teacher-Aide	42	44	--
Teacher-Child Care	57	--	73
Single Teacher	17	--	--
Teacher-Teacher	27	1	--
TOTAL	143	45	73

Table B.4 EDUCATION PROFILE OF STAFF GROUPS

HIGHEST LEVEL ATTAINED	TEACHERS	AIDES	CCW's
UNIVERSITY EDUCATION			
Part University	17.5%	11.1%	16.4%
Bachelor of Education	16.1%	--	2.7%
Other Undergraduate Degrees	40.6%	26.7%	23.3%
Masters	9.8%	4.4%	1.4%
	84.0%	42.2%	43.8%
COMMUNITY COLLEGE EDUCATION			
Child Care Work	2	--	38
Early Childhood Education/ Infant Day Care	--	5	1
Social/Behavioural Science	--	5	4
Registered Nursing Assistant	1	2	--
Other Programmes	--	5	8
Numbers of staff per group who attended Community College:	3/143	17/45	51/73
TEACHING CERTIFICATES			
Teacher College	54 (38%)		
Part Special Education	47 (33%)		
Special Education	32 (23%		
Other Specialities	2 (1%)		
More Than One Speciality	7 (5%)		
TOTAL	142		

Table B.5 WORK EXPERIENCE PROFILE OF STAFF GROUPS

STAFF GROUP	YEARS OF EXPERIENCE	CURRENT POSITION	REGULAR TEACHING	SPECIAL TEACHING	CHILD CARE TREATMENT	AIDE	OTHER
TEACHERS							
Less than	1 yr.	25%	8	12	6		13
from 1 to	2	28	11	8		1	5
	3	21	15	13			2
	4	10	11	7	1		2
	5	2	7	4			-
	6	3	11	6			-
	7	3	7	3	1		1
	8	1	7	2			-
	9 or more	6	28	5			4
		100%	105	60	8	1	27
AIDES							
Less than	1	34%	-		3	6	7
from 1 to	2	29	-	1		5	2
	3	20	1				4
	4	9	3			1	2
	5	2	-		1	1	2
	6	2	1				2
	7	-	1				2
	8	4	-				1
	9 or more	-	-				1
		100%	6	1	4	13	23
CHILD CARE WORKERS						CHILD CARE SCHOOL	
Less than	1	54%	2	1	6	5	10
from 1 to	2	27	2		13	2	5
	3	11	-		9	1	2
	4	6	-		5	1	1
	5	1	1		4	1	-
	6	1	1		2		1
	7	-	-		5		-
	8	-	1		1		-
	9	-	1		5		2
		100%	8	1	50	10	21

Table B.6 SUPERVISORY ARRANGEMENTS BY STAFF GROUPS FOR SPECIAL CLASS SAMPLE

SUPERVISOR	TEACHERS	AIDES	CCW'S
Principal on Site	80	8	17
School Board Supervisor	45	1	-
Treatment Centre Supervisor	14	4	52
Both Board Centre Supervisor	4	-	1
Teacher	-	32	3
TOTALS	145	45	73

Table B.7 NUMBER OF SURVEYED CLASSES PER SCHOOL BOARD

BOARD	NUMBER OF CLASSES
A	6
B	13
C	4
D	7
E	8
F	13
G	11
H	13
I	7
J	13
K	8
L	6
M	12
N	4

APPENDIX C

DATA RESULTS

Table C.1 (a) DESCRIPTIVE STATISTICS FOR CES AVERAGE CLASS RATINGS BY REGULAR CLASS STUDENTS

DIMENSION	Standard Deviation	Minimum/ Maximum	Kurtosis	Skewness
Involvement	20.7	14.2/89.5	-.3	-.7
Affiliation	10.4	55.8/94.5	2.4	-1.6
Staff Support	13.4	46.7/94.4	-.3	-.7
Task Orientation	8.5	57.8/89.7	-.1	-.7
Competition	12.2	43.6/85.0	-.7	-.4
Order and Organization	18.0	8.3/82.0	.1	.2
Rule Clarity	10.4	56.7/93.8	-.9	-.2
Staff Control	13.4	28.1/86.0	.7	-.6
Innovation	12.7	33.8/89.8	1.1	-.8

Table C.1 (b) DESCRIPTIVE STATISTICS FOR CES AVERAGE CLASS RATINGS BY SPECIAL CLASS STUDENTS

DIMENSION	Standard Deviation	Minimum/ Maximum	Kurtosis	Skewness
Involvement	16.7	17.5/95.0	-.4	-.4
Affiliation	12.6	25.0/100.0	1.4	-.9
Staff Support	11.5	50.0/100.0	.2	-.9
Task Orientation	11.1	50.0/95.0	-.3	-.7
Competition	14.5	8.3/95.8	2.4	-1.0
Order and Organization	18.8	5.0/91.7	-.5	.3
Rule Clarity	10.3	55.0/100.0	-.2	-.4
Staff Control	14.9	8.3/100.0	1.3	-.7
Innovation	13.4	35.0/95.8	-.1	-.4

Table C.1 (c) DESCRIPTIVE STATISTICS FOR CES AVERAGE CLASS RATINGS BY SPECIAL CLASS STAFF

DIMENSION	Standard Deviation	Minimum/ Maximum	Kurtosis	Skewness
Involvement	17.3	37.5/100.0	-.6	-.5
Affiliation	22.5	12.5/100.0	-.8	-.2
Staff Support	10.1	50.0/100.0	1.2	-1.0
Task Orientation	19.2	25.0/100.0	.2	-.8
Competition	20.7	0.0/87.5	-.5	.2
Order and Organization	23.0	12.5/100.0	-.8	-.1
Rule Clarity	10.5	25.0/100.0	7.7	-3.5
Staff Control	23.0	0.0/100.0	.1	-.5
Innovation	21.4	12.5/100.0	-.2	-.7

Table C.2 CES AVERAGE RATINGS BY SPECIAL STUDENTS FOR AGE GROUPS WITH ANALYSIS OF VARIANCE BY INDIVIDUAL LEVEL

DIMENSION	Age Groups: 10 and Under (N=333)	Over 10 to 12 (N=158)	Over 12 (N=260)	Probability Level	Variance Explained
Involvement	67.4	54.8	53.2	.000 *	.05
Affiliation	80.2	73.8	73.4	.001 *	.02
Staff Support	85.3	84.9	83.4	.64	.001
Task Orientation	79.5	79.3	71.0	.00 *	.03
Competition	71.2	68.8	60.7	.00 *	.03
Order and Organization	54.2	40.8	40.8	.00 *	.05
Rule Clarity	82.7	80.4	76.0	.001 *	.02
Staff Control	68.1	68.7	56.4	.00 *	.05
Innovation	67.4	69.1	67.8	.81	.001

* Indicates significance below .05 level

Table C.3 CES AVERAGE RATINGS BY SPECIAL STUDENTS WITH ANALYSIS OF VARIANCE BY STUDENT SEX AND STAFFING

	Student Sex		Probability			
DIMENSION	Male N=(632)	Female N=(119)	Sex	Staffing	Inter-action	Variance Explained
Involvement	60.1	58.2	.52	.01	.33	.02
Affiliation	76.6	75.6	.69	.23	.06	.01
Staff Support	84.7	83.8	.73	.34	.18	.01
Task Orientation	76.9	74.4	.27	.01	.92	.02
Competition	67.6	64.2	.20	.34	.07	.01
Order and Organization	47.4	43.1	.16	.00	.15	.03
Rule Clarity	80.0	79.2	.72	.25	.86	.01
Staff Control	65.0	59.6	.04	.01	.40	.02
Innovation	68.2	66.2	.45	.79	.73	.00

Table C.4 DISTRIBUTION OF SPECIAL CLASS STUDENTS BY AGE GROUP AND SEX

STUDENT SEX	10 and Under (N=333)	Over 10 to 12 (N=158)	Over 12 (N=260	Total
Male (N=632)	46.2%	22.0%	31.8%	100%
Female (N=119)	34.5%	16.0	49.5	100%

Chi-square = 13.99 Significance probability = .001

Table C.5 DISTRIBUTION OF SPECIAL CLASS STUDENTS BY STAFFING MODEL AND SEX

Staffing Model	Student Sex: Male (N=632)	Female (N=119)	Total
Teacher-Aide (N=324)	90.3%	9.7%	100%
Teacher-Child Care Worker (N=117)	78.2%	21.8%	100%
Teacher-Teacher (N=254)	82.9%	17.1%	100%
Single Teacher (N=56)	91.9%	8.1%	100%
Average	84.2%	15.8%	

Chi-square = 20.06 Significance probability = .001

Table C. 6 CES AVERAGE RATINGS BY SPECIAL STUDENTS WITH ANALYSIS OF VARIANCE BY STUDENT TIME IN CLASS

	Time in Class				Probability			
DIMENSION	≤ 1 mo.	>1 mo. After Sept.	Since Sept.	More Than Year	Time	Staff-ing	Inter-action	Variance Explained
N=	(56)	(218)	(257)	(22)				
Involvement	64.7	59.1	62.6	56.1	.06	.01*	.71	.03
Affiliation	74.0	76.0	75.3	79.0	.33	.23	.74	.01
Staff Support	85.3	83.4	84.3	85.8	.78	.37	.56	.01
Task Orientation	78.0	73.9	76.4	78.9	.13	.01*	.67	.03
Competition	67.4	62.3	69.1	69.3	.02*	.45	.84	.02
Order and Organization	52.8	43.9	46.7	48.0	.23	.00*	.53	.03
Rule Clarity	76.3	79.9	78.8	82.0	.25	.31	.58	.01
Staff Control	58.9	60.9	65.1	67.7	.02*	.01*	.63	.03
Innovation	74.6	65.9	68.6	67.4	.17	.78	.01	.01

* Indicates significance below .05 level

Table C.7 SUMMARY RESULTS FOR MULTIPLE REGRESSION OF CES ON SOCC FACTORS

DIMENSION	Order of Entry to Regression (first - 1 to fifth - 5) Coord-ination	With-drawn	Biz-arre	Dis-ruption	Learn-ing	Total Variance Explained by 5 Factors
Involvement	1	-	4	2	3	.022
Affiliation	5	2	3	4	1	.010
Staff Support	2	-	-	1	3	.010
Task Orientation	2	4	3	5	1	.016
Competition	-	1	2	3	-	.002
Order and Organization	1	3	4	2	5	.052
Rule Clarity	1	2	3	4	5	.005
Staff Control	1	2	3	4	-	.012
Innovation	3	1	2	4	5	.014
General Order	1	2	3	4	5	

Table C.8 CES AVERAGE RATINGS BY SPECIAL STUDENTS WITH ANALYSIS OF VARIANCE BY BOARD STATUS

DIMENSION	Board Status: Public (N=91)	Board Status: Separate (N=27)	Probability: Status	Probability: Staffing	Probability: Interaction	Variance Explained
Involvement	58.7	65.4	.07	.08	.65	.09
Affiliation	74.3	81.9	.01 *	.20	.99	.10
Staff Support	84.1	85.1	.70	.64	.88	.02
Task Orientation	74.5	81.6	.01 *	.05 *	.62	.14
Competition	65.7	70.2	.15	.26	.24	.05
Order and Organization	45.5	52.1	.10	.05 *	.26	.09
Rule Clarity	79.4	82.0	.24	.23	.14	.05
Staff Control	64.1	63.4	.82	.01 *	.75	.12
Innovation	67.7	67.0	.80	.87	.83	.01

* Indicates significance below .05 level

Table C.9 CES AVERAGE RATINGS BY SPECIAL STAFF WITH ANALYSIS OF VARIANCE BY BOARD STATUS

DIMENSION	Board Status		Probability			
	Public (N=87)	Separate (N=26)	Status	Staff-ing	Inter-Action	Variance Explained
Involvement	78.6	87.5	.01*	.28	.63	.08
Affiliation	63.9	70.0	.15	.31	.99	.05
Staff Support	90.3	91.3	.48	.41	.28	.03
Task Orientation	76.6	78.1	.99	.07	.39	.07
Competition	35.0	33.7	.53	.17	.03	.04
Order and Organization	62.5	72.3	.07	.23	.79	.07
Rule Clarity	94.5	96.6	.36	.48	.24	.03
Staff Control	62.0	58.0	.21	.02*	.93	.10
Innovation	73.1	74.2	.46	.02*	.92	.10

*Indicates significance below .05 level

Table C.10 CES AVERAGE RATINGS BY SPECIAL STUDENTS WITH ANALYSIS OF VARIANCE BY PHYSICAL LOCATION

	Physical Location			Probability			
DIMENSION	School (N=79)	Centre (N=18)	Other (N=21)	Location	Staffing	Interaction	Variance Explained
Involvement	60.0	54.5	66.2	.08	.27	.05	.07
Affiliation	76.6	71.4	77.9	.22	.57	.33	.04
Staff Support	83.6	87.6	84.2	.43	.40	.75	.04
Task Orientation	77.0	78.2	71.0	.06	.11	.94	.10
Competition	69.0	61.0	62.0	.04*	.54	.02	.07
Order and Organization	46.0	50.0	48.6	.69	.04*	.16	.08
Rule Clarity	79.9	80.1	80.3	.99	.21	.42	.04
Staff Control	67.8	55.5	56.7	.00*	.03*	.25	.20
Innovation	67.3	63.6	72.0	.14	.75	.08	.04

*Indicates significance below .05 level

Table C.11 CES AVERAGE RATINGS BY SPECIAL STAFF WITH ANALYSIS OF VARIANCE BY PHYSICAL LOCATION

DIMENSION	Physical Location			Probability			
	School (N=75)	Centre (N=18)	Other (N=20)	Location	Staffing	Interaction	Variance Explained
Involvement	80.7	83.1	78.0	.40	.37	.91	.04
Affiliation	65.2	70.2	61.4	.38	.33	.39	.04
Staff Support	90.2	89.3	92.9	.74	.62	.92	.03
Task Orientation	77.7	85.0	66.9	.08	.32	.13	.11
Competition	34.5	33.7	36.3	.77	.19	.28	.05
Order and Organization	66.0	74.4	51.3	.01*	.14	.21	.14
Rule Clarity	95.7	91.5	95.5	.36	.54	.59	.04
Staff Control	65.2	46.2	59.2	.02*	.07	.44	.15
Innovation	71.5	75.8	78.5	.96	.04*	.27	.09

* Indicates significance below .05 level

Table C.12 CES AVERAGE RATINGS BY SPECIAL STUDENTS WITH ANALYSIS OF VARIANCE BY AGREEMENT STATUS

DIMENSION	Agreement Status		Probability			
	No (N=67)	Yes (N=51)	Agree-ment	Staff-ing	Inter-action	Variance Explained
Involvement	61.4	58.7	.38	.12	.37	.06
Affiliation	77.5	74.2	.16	.17	.52	.06
Staff Support	84.9	83.6	.57	.70	.38	.02
Task Orientation	77.3	74.6	.20	.13	.66	.06
Competition	69.8	62.7	.01*	.54	.13	.08
Order and Organization	48.5	45.1	.33	.11	.25	.06
Rule Clarity	80.8	78.9	.32	.32	.25	.04
Staff Control	67.0	59.9	.01*	.03*	.94	.13
Innovation	68.2	66.7	.54	.58	.12	.02

* Indicates significance below .05 level

Table C.13 CES AVERAGE RATINGS BY SPECIAL STAFF WITH ANALYSIS OF VARIANCE BY AGREEMENT STATUS

DIMENSION	Agreement Status: No (N=66)	Agreement Status: Yes (N=47)	Probability: Agreement	Probability: Staffing	Probability: Interaction	Variance Explained
Involvement	80.8	80.4	.41	.43	.85	.03
Affiliation	67.0	63.0	.34	.39	.65	.04
Staff Support	90.0	91.3	.79	.53	.81	.02
Task Orientation	77.1	76.8	.16	.03*	.78	.08
Competition	34.8	34.6	.96	.20	.09	.04
Order and Organization	65.1	64.2	.35	.16	.55	.05
Rule Clarity	95.1	94.9	.78	.49	.94	.02
Staff Control	65.0	55.6	.26	.10	.60	.10
Innovation	69.8	78.4	.51	.09	.04	.09

*Indicates significance below .05 level

Table C.14 DISTRIBUTION OF SPECIAL CLASSES BY STAFFING MODEL AND NUMBER OF STUDENTS SURVEYED PER CLASS

NUMBER SURVEYED PER CLASS	Staffing Models				
	Teacher-Aide	Teacher-CCW	Teacher-Teacher	Single Teacher	Total
3	4	1	3	-	8
4	3	10	7	-	20
5	8	13	4	-	25
6	8	10	-	2	20
7	11	6	-	2	19
8	5	-	-	3	8
9 and over	2	10	-	6	18
TOTAL	41	50	14	13	118

Table C.15 CES AVERAGE RATINGS BY SPECIAL STUDENTS WITH ANALYSIS OF VARIANCE BY SIZE OF CLASS

DIMENSION	Size of Class: Up to 5 (N=53)	Size of Class: Over 5 (N=65)	Probability: Class Size	Probability: Staff-ing	Probability: Inter-action	Variance Explained
Involvement	59.6	60.7	.73	.16	.65	.05
Affiliation	74.1	77.6	.14	.51	.62	.04
Staff Support	82.5	85.9	.12	.84	.22	.03
Task Orientation	74.9	77.3	.20	.12	.60	.06
Competition	63.8	68.0	.05 *	.62	.69	.05
Order and Organization	45.5	48.2	.43	.12	.91	.06
Rule Clarity	78.5	81.2	.16	.48	.22	.04
Staff Control	62.1	65.4	.20	.01 *	.01	.12
Innovation	65.7	69.1	.19	.48	.66	.04

* Indicates significance below .05 level

Table C,16 CES AVERAGE RATINGS BY SPECIAL STAFF WITH ANALYSIS OF VARIANCE BY SIZE OF CLASS

DIMENSION	Size of Class		Probability			
	Up to 5 (N=52)	Over 5 (N=61)	Class Size	Staff-ing	Inter-action	Variance Explained
Involvement	79.3	81.8	.36	.49	.84	.03
Affiliation	62.9	67.4	.45	.49	.30	.03
Staff Support	90.8	90.3	.97	.46	.08	.02
Task Orientation	80.6	73.9	.06	.06	.26	.10
Competition	38.2	31.7	.22	.35	.70	.05
Order and Organization	62.7	66.4	.99	.29	.59	.04
Ruly Clarity	94.8	95.2	.76	.48	.36	.02
Staff Control	56.6	65.0	.17	.06	.67	.10
Innovation	76.3	70.8	.33	.03*	.82	.10

*Indicates significance below .05 level

Table C.17 CES AVERAGE RATINGS BY SPECIAL STUDENTS WITH ANALYSIS OF VARIANCE BY STAFF SEX

DIMENSION	Staff Sex: Male (N=96)	Staff Sex: Female (N=154)	Probability: Sex	Probability: Staffing	Probability: Interaction	Variance Explained
Involvement	58.1	61.3	.13	.05*	.90	.04
Affiliation	75.6	76.2	.71	.30	.16	.02
Staff Support	84.7	84.9	.89	.18	.31	.02
Task Orientation	75.0	76.4	.37	.00*	.80	.10
Competition	63.4	68.2	.02*	.32	.10	.04
Order and Organization	44.5	47.4	.22	.00*	.50	.08
Rule Clarity	80.0	80.9	.50	.15	.32	.02
Staff Control	61.1	66.1	.01*	.00*	.95	.10
Innovation	67.0	68.7	.37	.53	.37	.01

* Indicates significance below .05 level

Table C.18 CES AVERAGE RATINGS BY SPECIAL STUDENTS WITH ANALYSIS OF VARIANCE BY STAFF GENERAL EDUCATION

	Staff General Education					Probability			
DIMENSION N=	Part Univ. (39)	Non-B.Ed. (83)	B.Ed. (22)	Masters (17)	Non-CCW College (13)	Education	Staffing	Interaction	Variance Explained
Involvement	61.6	59.2	59.2	62.9	58.9	.87	.09	.63	.05
Affiliation	77.3	73.6	74.9	78.1	77.5	.38	.64	.70	.04
Staff Support	84.0	83.3	84.2	87.6	85.2	.76	.26	.25	.03
Task Orientation	76.4	77.9	77.8	78.2	69.5	.16	.01*	.79	.11
Competition	69.4	66.0	66.5	68.5	61.4	.45	.13	.39	.05
Order and Organization	46.6	45.4	50.2	49.7	40.5	.59	.00*	.57	.13
Rule Clarity	79.1	79.9	81.4	79.3	82.3	.86	.06	.28	.05
Staff Control	67.6	63.3	67.4	68.2	59.6	.17	.00*	.28	.14
Innovation	67.0	69.5	64.6	60.8	69.1	.16	.86	.83	.04

* Indicates significance below .05 level

Table C.19 CES AVERAGE RATINGS BY SPECIAL STUDENTS WITH ANALYSIS OF VARIANCE BY TEACHING CERTIFICATE

	Teaching Certificate			Probability			
DIMENSION N=	Regular (67)	Special (48)	Partial Special (30)	Certificate	Staffing	Interaction	Variance Explained
Involvement	59.8	58.4	59.6	.89	.01*	.37	.08
Affiliation	76.4	74.0	77.8	.35	.27	.10	.04
Staff Support	84.0	84.5	85.3	.86	.14	.09	.04
Task Orientation	76.9	78.0	75.0	.52	.01*	.78	.11
Competition	65.0	68.3	66.3	.51	.08	.87	.06
Order and Organization	46.5	48.5	48.3	.62	.00*	.04	.12
Rule Clarity	78.1	80.9	81.1	.21	.09	.06	.06
Staff Control	63.4	67.2	64.1	.33	.01*	.11	.10
Innovation	66.0	67.5	66.6	.85	.80	.90	.01

* Indicates significance below .05 level

Table C.20 CES AVERAGE RATINGS BY SPECIAL STUDENTS WITH ANALYSIS OF VARIANCE BY REGULAR TEACHING DURATION

DIMENSION	Regular Teaching Duration				Probability			
	≤ 1 yr.	1 to ≤ 4	4 to ≤ 7	> 7	Dura- tion	Staff- ing	Inter- action	Variance Explained
	N = (9)	(40)	(29)	(36)				
Involvement	58.7	58.0	61.3	62.6	.56	.01*	.01	.12
Affiliation	79.2	76.2	78.3	78.4	.69	.29	.05	.04
Staff Support	90.2	85.2	86.4	84.5	.49	.09	.38	.08
Task Orientation	71.5	75.8	80.0	79.7	.16	.01*	.79	.11
Competition	55.6	68.9	67.8	68.8	.08	.42	.65	.09
Order and Organization	42.8	44.9	50.3	50.8	.36	.01*	.37	.15
Rule Clarity	86.7	81.3	79.6	79.3	.17	.02*	.08	.13
Staff Control	61.4	65.8	65.9	64.5	.80	.10	.12	.06
Innovation	78.0	69.7	64.6	65.9	.03*	.70	.52	.09

* Indicates significance below .05 level

Table C.21 CES AVERAGE RATINGS BY SPECIAL STUDENTS WITH ANALYSIS OF VARIANCE BY SPECIAL TEACHING DURATION

	Special Teaching Duration				Probability			
DIMENSION	≤ 1 yr.	1 to ≤ 4	4 to ≤ 7	> 7	Dura-tion	Staff-ing	Inter-action	Variance Explained
N =	(11)	(26)	(12)	(7)				
Involvement	58.6	63.0	58.2	58.4	.79	.41	.83	.08
Affiliation	79.9	76.9	79.1	75.7	.84	.50	.70	.07
Staff Support	85.8	85.7	85.6	80.0	.70	.53	.78	.08
Task Orientation	76.8	77.6	76.3	79.7	.95	.16	.93	.12
Competition	61.6	66.5	66.3	73.0	.20	.63	.21	.11
Order and Organization	46.3	49.7	45.3	42.3	.78	.18	.70	.12
Rule Clarity	83.1	81.7	81.1	77.6	.70	.53	.89	.08
Staff Control	63.7	66.8	63.1	72.1	.39	.05 *	.10	.17
Innovation	67.6	69.0	66.7	70.4	.94	.76	.88	.03

* Indicates significance below .05 level

Table C.22 CES AVERAGE RATINGS BY SPECIAL STUDENTS WITH ANALYSIS OF VARIANCE BY COLLEAGUE CONTACT

DIMENSION	Colleague Contact		Probability			Variance Explained
	Little (N=96)	Lot (N=154)	Contact	Staff-ing	Inter-action	
Involvement	59.3	60.8	.46	.03*	.74	.04
Affiliation	76.5	75.5	.55	.31	.85	.02
STaff Support	84.7	84.9	.91	.19	.86	.02
Task Orientation	75.2	76.4	.43	.00*	.49	.11
Competition	67.6	65.1	.20	.15	.20	.03
Order and Organization	44.6	48.0	.13	.00*	.20	.09
Rule Clarity	80.8	80.3	.68	.13	.27	.02
Staff Control	62.9	65.4	.17	.00*	.39	.10
Innovation	68.3	67.8	.78	.68	.16	.01

* Indicates significance below .05 level

Table C.23 CES AVERAGE RATINGS BY SPECIAL STAFF WITH ANALYSIS OF VARIANCE BY STAFF SEX

DIMENSION	Staff Sex		Probability			
	Male (N=58)	Female (N=63)	Sex	Staff-ing	Inter-action	Variance Explained
Involvement	76.2	82.1	.17	.76	.35	.03
Affiliation	59.1	69.1	.04*	.98	.37	.04
Staff Support	91.0	90.1	.73	.33	.89	.03
Task Orientation	76.7	79.6	.49	.36	.31	.03
Competition	34.5	34.8	.96	.34	.08	.03
Order and Organization	62.5	69.1	.19	.57	.86	.03
Ruly Clarity	94.4	97.6	.12	.38	.26	.05
Staff Control	61.6	62.2	.92	.33	.60	.03
Innovation	75.4	77.0	.71	.01*	.10	.13

* Indicates significance below .05 level

Table C.24 CES AVERAGE RATINGS BY SPECIAL STAFF WITH ANALYSIS OF VARIANCE BY STAFF GENERAL EDUCATION

	Staff General Education				Probability			Variance
DIMENSIONS	Part Univ. N = (16)	Non-B.Ed. (52)	B.Ed. (17)	Masters (13)	Education	Staffing	Interaction	Explained
Involvement	83.3	77.4	75.5	75.0	.77	.85	.16	.02
Affiliation	73.4	64.4	60.3	53.9	.30	.98	.89	.05
Staff Support	95.3	89.9	89.7	80.8	.04*	.72	.06	.10
Task Orientation	73.4	80.3	86.8	75.0	.30	.46	.68	.07
Competition	35.9	33.3	38.2	26.9	.74	.32	.71	.05
Order and Organization	67.2	63.9	73.6	63.5	.61	.44	.61	.05
Rule Clarity	96.9	96.2	97.1	94.2	.92	.14	.73	.07
Staff Control	45.3	61.1	63.2	73.1	.06	.39	.36	.11
Innovation	78.1	76.9	82.4	67.3	.33	.02*	.52	.14

* Indicates significance below .05 level

Table C.25 CES AVERAGE RATINGS BY SPECIAL STAFF WITH ANALYSIS OF VARIANCE BY TEACHING CERTIFICATE

DIMENSION	Teaching Certificate			Probability			
	Regular	Special	Partial Special	Certificate	Staffing	Interaction	Variance Explained
N =	(43)	(42)	(26)				
Involvement	76.0	78.2	83.3	.47	.88	.44	.02
Affiliation	59.9	61.3	67.3	.28	.43	.61	.05
Staff Support	91.9	86.9	93.3	.10	.12	.33	.09
Task Orientation	76.8	79.2	76.6	.87	.25	.87	.04
Competition	37.6	25.6	40.7	.06	.54	.75	.08
Order and Organization	59.3	67.3	74.0	.07	.70	.15	.06
Ruly Clarity	97.1	96.4	98.1	.46	.13	.00	.05
Staff Control	60.5	63.7	58.3	.74	.21	.42	.05
Innovation	79.7	73.8	70.2	.24	.01*	.42	.16

* Indicates significance below .05 level

Table C.26 CES AVERAGE RATINGS BY SPECIAL STAFF WITH ANALYSIS OF VARIANCE BY REGULAR TEACHING DURATION

	Regular Teaching Duration				Probability			
DIMENSION	≤ 1 yr.	1 to 4 ≤ 4	4 to ≤ 7	> 7	Dura-tion	Staff-ing	Inter-action	Variance Explained
N=	(7)	(32)	(22)	(29)				
Involvement	85.7	78.4	76.1	82.8	.66	.94	.01	.02
Affiliation	75.0	61.7	72.7	66.4	.23	.95	.01	.05
Staff Support	85.7	87.5	86.3	90.5	.28	.47	.01	.06
Task Orientation	89.3	82.0	73.9	77.3	.34	.11	.96	.11
Competition	35.7	37.8	33.3	30.2	.80	.26	.81	.06
Order and Organization	78.6	64.1	62.5	69.0	.50	.71	.31	.04
Rule Clarity	100.0	95.3	96.6	96.6	.73	.54	.78	.04
Staff Control	57.1	68.0	54.5	60.9	.34	.27	.28	.08
Innovation	59.1	69.5	84.1	68.1	.04*	.09	.74	.17

*Indicates significance below .05 level

Table C.27 CES AVERAGE RATINGS BY SPECIAL STAFF WITH ANALYSIS OF VARIANCE BY SPECIAL TEACHING DURATION

	Special Teaching Duration				Probability			
DIMENSION	1 yr. (9)	1 to 4 (26)	4 to 7 (11)	7 (6)	Duration	Staffing	Interaction	Variance Explained
nvolvement	91.7	73.1	78.0	87.5	.22	.79	.20	.11
Affiliation	75.0	65.4	54.5	58.3	.26	.11	.10	.18
Staff Support	86.1	92.3	90.9	90.1	.70	.54	.47	.08
Task Orientation	72.2	76.0	76.5	79.2	.96	.68	.57	.04
Competition	27.8	30.1	28.0	37.5	.91	.96	.50	.02
Order and Organization	63.9	59.6	61.4	62.5	.99	.51	.41	.05
Rule Clarity	100.0	97.1	97.7	95.8	.71	.69	.21	.06
Staff Control	66.7	58.7	60.6	70.8	.71	.10	.19	.14
Innovation	63.9	82.7	84.1	59.3	.03*	.22	.08	.23

* Indicates significance below .05 level

Table C.28 CES AVERAGE RATINGS BY SPECIAL STAFF WITH ANALYSIS OF VARIANCE BY COLLEAGUE CONTACT

DIMENSION	Colleague Contact		Probability			
	Little (N=62)	Lot (N=59)	Contact	Staffing	Interaction	Variance Explained
Involvement	82.4	76.0	.15	.96	.80	.02
Affiliation	65.3	63.1	.65	.94	.19	.01
Staff Support	90.7	90.3	.85	.31	.20	.03
Task Orientation	77.7	78.8	.79	.32	.92	.03
Competition	32.9	36.4	.50	.45	.67	.03
Order and Organization	64.1	67.8	.46	.57	.61	.02
Rule Clarity	95.2	97.0	.37	.40	.51	.03
Staff Control	60.8	63.1	.65	.35	.34	.03
Innovation	76.6	74.9	.86	.01*	.29	.13

* Indicates significance below .05 level

DECLARATION OF AUTHORSHIP

I hereby declare that I am the author of this thesis entitled: "RELATIONSHIPS BETWEEN DIFFERENT STAFFING MODELS, CONTEXT VARIABLES, AND SOCIAL CLIMATE IN SPECIAL CLASSES FOR CHILDREN WITH PSYCHOSOCIAL DISORDERS".

WITNESS: SIGNED:

Dated: September 26, 1983
Toronto, Canada